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Abstract

The European Activation System (EASY) includes, as the source of nuclear data, the European Activation File (EAF). A new version of EAF, EAF-2005, has been developed, and this report gives details of the EAF decay data library. The sources of data and the methods of assembly are described, but the bulk of the report is devoted to a listing of summary properties of all the 2192 nuclides contained in the library.

The summary properties listed are: nuclide spin, decay modes, half-life (with percentage error), mean decay energies and data source.

Contents

Introduction

The European Activation File (EAF) is a set of libraries of nuclear data that is designed as input to inventory codes (specifically FISPACT) to enable the activation of fusion devices to be calculated. The EAF effort was initially based at ECN Petten and grew from work over 1986 to 1989 on the REAC-ECN libraries 1 - 5 based on the American REAC library. It is important to note that at this time EAF referred only to the neutron-induced cross section library; further details and the history of this element of EAF is covered in the EAF Cross section library report [1]. Initial work in the UK on cross section libraries followed a parallel course with UKACT1 [2], which was also developed from the REAC library, UKACT1 was tailored as an input to FISPACT. To accompany this, the decay data library UKDECAY1 [2] was developed based on JEF-1 evaluations, in the ENDF/B-5 format. The UKDECAY libraries continued to be developed to remain compatible with the EAF cross section libraries, but the description and documentation of these libraries remained sparse, as most effort was given to the documentation and development of the cross section libraries and the FISPACT inventory code.

With the release of EAF-4.1 in mid 1995, and the decision to move all activation library development to the EURATOM/UKAEA Fusion Association, the scope of the term EAF was enlarged to cover all the data libraries required as input to FISPACT. Thus the decay data library was termed EAF_DEC-4.1, and this is briefly described in the FISPACT 4 User Manual [3]. A full description of the decay data library was given as part of EASY-99 [4], EASY-2001 [5] and EASY-2003 [6], and the purpose of the current report is to update these reports for EASY-2005. This report is now seen as part of the complete documentation of the European Activation System (EASY) for the version released at the beginning of 2005 - EASY-2005 [7].

The report consists of a description of the composition of the library, which relies heavily on existing European evaluations, but also includes original, fusion-funded work to deal with deficiencies in the existing data. The method of compiling the decay library has been further improved by embedding it in the SAFEPAQ-II system [8] that enables more thorough auditing and quality assurance to be applied to library maintenance. Finally a list of each nuclide in EAF_DEC-2005, and a summary of their properties forms the major part of the report and acts as a convenient guide to the contents of the library. Similar information, but in a different format is available to

FISPACT users in the **PRINTLIB** output, and the recommendation, given in the FISPACT-2005 User manual [9], to use this output for reference still holds.

Data sources

The requirement of FISPACT for decay data is that every stable nuclide and every radionuclide that can be formed either directly by a reaction or as a decay daughter of an existing radionuclide needs to be identified (be included in the FISPACT index file) and to have information on half-life, decay modes, decay energies and, if possible, the γ spectrum. For EAF-2005 a total of 2192 nuclides are included, and for the majority the most comprehensive source of data is the set of evaluated files in JEF-2.2. This library of radioactive nuclides [10] was compiled by the NEA Data Bank based on the UK and French national libraries, supplemented by entries from the Evaluated Nuclear Structure Data File (ENSDF). The library is in ENDF/B-6 format (MF = 8, MT = 457) but its main deficiency is the lack of data for stable nuclides. FISPACT is able to read directly the ENDF/B-6 (and ENDF/B-5) formats, and although it does 'process' this in the sense of binning the γ spectrum data and storing the other data in internal arrays, there is no need for a separate file format that the ENDF/B format data needs to be converted into.

To overcome the lack of stable nuclides in JEF-2.2, a file for each stable nuclide was generated (MF = 1, MT = 451 format). Changes to the ENDF format mean that stable data can now be included in the file, and indeed the recent release of the JEFF-3.0 decay file [11] includes these data. However, although some data for EAF-2005_DEC are taken from JEFF-3.0, the stable data are taken from the same source as previously. The data for these stable nuclides are trivial (ZA and AWR are the main data) and are extracted from a source such as the Nuclear Wallet Cards [12]. The JEF-2 library was compiled to satisfy the requirements of the nuclear industry, and so concentrated on nuclides relevant to fission power plants. The new JEFF-3 library covers a wider range of applications such as fusion, and will become the primary data source in future EAF versions. Currently there are still gaps in the JEF-2.2 and JEFF-3.0 libraries. To fill these, standard printed data sources such as Browne and Firestone [13] and the Nuclear Wallet cards are used and converted into ENDF/B format. Even using these standard sources there are still nuclides for which some of the required information is missing. In the last resort estimates of the missing quantities were made using the relationships shown below.

β^- decay: if $\langle\gamma\rangle$ not known, $\langle\gamma\rangle = Q_{\beta^-} / 3$ and $\langle\beta\rangle = Q_{\beta^-} / 3$

if <γ> known, <β> = (Q_{β^-} - <γ>) / 2

ε and β^+ decays: from neighbouring nuclides take typical value of f_β = fraction of decay that is β^+, and define e = (Q_ε - $2m_ec^2$) / 2. Then <γ> = (1- f_β)e and <β> = f_β e. If e < 0 then assume <β> = 0 and choose <γ> from available data.

α decay: <α> = energy of alpha x branching fraction for α decay.

In these relationships the mean value of a quantity is shown by < >, α, β, γ represent the alpha, beta and gamma energies and the Q-value for a decay is shown by Q.

During the use of previous decay data libraries it was noted that for some nuclides the average γ energy did not agree with the mean energy calculated from the γ spectrum data. In view of these deficiencies and the fact that some existing JEF evaluations do not contain any γ spectrum data, A. Nichols (previously with AEA Technology) has carried out new evaluations over the last eight years. The nuclides that have been studied and that are included in EAF_DEC-2005 are given in Table 1. A description of the evaluation work is given in reference 14, the ENDF format files are stored in the library UKPADD-n (n = 2, 3, 4, 5, 6, 6.1, 6.2, 6.3, 6.4) maintained by Serco (previously AEA Technology) [15,16]. These new files have been included in the UKPADD-6.4 library that is used within the UK and will form part of the input to the next version of JEFF. UKPADD-6.4 contains all the evaluations made by Nichols for fusion, including ones from UKPADD-6.3 and other recent ones made for BNFL [17]. Differences between EAF_DEC-2005 and EAF_DEC-2003 are indicated in column 3.

Table 1. Nuclides in UKPADD-6.4 for fusion applications

Nuclide	Half-life	Comment
N-17	4.17 s	
Mn-58	1.09 min	
Mn-58m	2.70 s	
Fe-63	6.10 s	
Ni-67	21.00 s	
Ga-77	13.00 s	
As-82	20.00 s	
As-82m	13.60 s	
Se-79	1.12×10^6 y	
Se-79m	3.90 min	
Se-81	18.39 min	New in EAF-2005
Se-81m	57.28 min	New in EAF-2005
Br-72	1.31 min	New in EAF-2005
Br-72m	10.60 s	New in EAF-2005
Rb-89	15.40 min	
Sr-87m	2.81 h	
Sr-92	2.71 h	

Nuclide	Half-life	Comment
Sr-94	1.25 min	New in EAF-2005
Y-96	5.37 s	
Y-96m	9.62 s	
Y-96n	Shown not to exist	
Zr-99	2.20 s	New in EAF-2005
Nb-100	1.40 s	
Nb-100m	2.90 s	
Mo-103	1.13 min	
Tc-97	2.60×10^{6} y	
Tc-97m	90.20 d	
Rh-110	28.50 s	New in EAF-2005
Rh-110m	3.20 s	New in EAF-2005
Pd-109	13.46 h	
Pd-109m	4.71 m	
Pd-112	20.30 h	
Ag-107m	44.10 s	
Ag-109m	39.80 s	
Ag-114	4.70 s	
Ag-114m	1.50×10^{-3} s	
Ag-115	20.50 m	
Ag-115m	18.60 s	
Cd-107	6.52 h	
In-112	14.70 min	
In-112m	20.70 min	
Sn-110	4.10 h	
Te-121	19.16 d	
Te-121m	154.00 d	
Ba-126	1.67 h	
Ba-129	2.38 h	
Ba-129m	2.14 h	
La-137	6.00×10^{4} y	
Ce-145	2.95 min	
Ce-147	57.00 s	
Pr-143	13.56 d	
Pr-144	17.28 min	
Pr-144m	6.90 min	
Pr-150	6.10 s	
Pm-152	4.12 min	
Pm-152m	7.50 min	
Pm-152n	14.40 min	
Tb-156	5.17 d	
Tb-156m	24.40 h	
Tb-156n	5.10 h	
Ho-160	25.30 min	
Ho-160m	5.00 h	
Ho-160n	2.90 s	
Ho-161	2.48 h	
Ho-161m	6.77 s	
Ho-163	4.57×10^{3} y	
Ho-163m	1.10 s	
Ho-164	28.60 min	
Ho-164m	37.60 min	
Ho-170	2.78 min	

Nuclide	Half-life	Comment
Ho-170m	43.00 s	
Er-172	2.05 d	
Hf-178m	4.00 s	
Hf-178n	31.00 y	
Hf-180m	5.50 h	
W-176	2.50 h	New in EAF-2005
Re-191	9.70 min	
Re-192	6.20 s	
Os-180	21.50 min	New in EAF-2005
Os-185	93.80 d	
Os-190m	9.90 min	
Os-191m	13.10 h	
Os-195	6.50 min	
Os-196	34.90 min	New in EAF-2005
Ir-187	10.50 h	
Ir-190	12.00 d	
Ir-190m	1.12 h	
Ir-190n	3.09 h	
Ir-191m	4.90 s	
Ir-191n	5.50 s	
Ir-192n	73.82 d	New in EAF-2005
Ir-192m	1.44 min	New in EAF-2005
Ir-192n	241.00 y	New in EAF-2005
Ir-197	5.80 min	
Ir-197m	8.90 min	
Pt-193	50.00 y	
Pt-193m	4.34 d	
Pt-197	19.89 h	
Pt-197m	1.59 h	
Pt-202	1.83 d	New in EAF-2005
Au-192m	0.16 s	New in EAF-2005
Au-197m	7.74 s	
Au-199	3.14 d	
Hg-190	20.00 min	
Hg-199m	42.10 m	
Hg-205	5.20 min	
Tl-193	21.80 min	
Tl-193m	2.11 min	
Pb-201	9.40 h	
Pb-201m	1.02 m	
Bi-208	3.68×10^5 y	
Po-208	2.93 y	

Another source of evaluated files is the US decay data library assembled by F. Mann to accompany the REAC activation library [18]. In most instances these files are not significantly better than files generated from the standard sources for nuclides missing from JEF-2.2, but some of these files have been used during the compilation of EAF_DEC-2005.

An additional feature in FISPACT-97, i.e. inclusion of half-life uncertainties in uncertainty estimation of radiological

quantities, placed a new requirement on the decay data library. It was necessary to ensure that the file for each nuclide contains a value for the half-life uncertainty. Many of the existing evaluations contain no value for this quantity, and it was necessary to enter this by hand using either the standard sources or using an estimated value (typically 50% uncertainty).

Another use of the decay data library is to generate a list of the spins and state energies of all isomeric states. This information is required by the SAFEPAQ-II processing code when the splitting of total cross sections between ground and isomeric states is calculated by systematics. The systematic formula requires the spins of both the ground and isomeric states, and to try and ensure consistency between the various EAF libraries these values are taken directly from the decay data library. In many instances the spin data are missing from the evaluations and standard sources were used to fill in the gaps.

The details of the compilation of the library are discussed in the next section, but it can be noted here that in all cases where corrections to the above sources were made, these were done on a copy of the file, not on the original file itself. The sources of data are shown in Table 2, which gives an identification number for each source that is used in the main nuclide listing.

Table 2. Data sources for EAF_DEC-2005

Data source	Source number	Comments
stables	1	Identification information for stable nuclides
ukpadd6.3	2	Collection of recent evaluations by A. Nichols
ukpadd6.4	3	Collection of recent evaluations by A. Nichols
ukhedd2.2	4	Collection of evaluations by A. Nichols
ukhedd2.4	5	Collection of evaluations by A. Nichols
jef22_dec	6	JEF-2.2 library
jef22_dec_cul	7	Additions and amendments to JEF-2.2 files
jeff-3t2	8	JEFF-3.0 test library
usdecay_aug93	9	US decay library dated August 1993
culham_93	10	New files from standard sources created in 1993
culham_95	11	New files from standard sources created in 1995
culham_96	12	New files from standard sources created in 1996
culham_97	13	Additions and amendments to existing files, or new files from standard sources created for EAF-97
culham_98	14	Additions and amendments to existing files, or new files from standard sources created for EAF-99
culham_01	15	Additions and amendments to existing files, (primarily to AWR) created for EAF-2001
culham_03	16	Additions and amendments to existing files, (primarily to AWR) created for EAF-2003

Library processing

EAF-2005 library processing uses the SAFEPAQ-II code [8]. This has been developed from the SYMPAL [19] and SAFEPAQ [20] applications. In addition to the tasks related to cross section processing, the decay data library management is also handled by SAFEPAQ-II. Details of the use of SAFEPAQ-II for the decay data library processing are described in the User manual. Here only an outline of the processing is given.

The files of decay data are stored in separate folders on a hard disk. A list of all required nuclides with the source of data is constructed; this list is part of the Parameter database and using the interactive tools in SAFEPAQ-II nuclides can be added or deleted and data sources changed - there is no direct editing of the database to introduce errors. Each change is logged so that a record of when changes were made is automatically stored. When a new version of the decay data library is built, SAFEPAQ-II using the list of nuclides copies the file for each nuclide from the specified source and produces the new library. In addition a database of decay properties is constructed that can be used in the subsequent cross section processing. The database can also be viewed in SAFEPAQ-II and is also used in the EASY User Interface [9] so that users can view decay data. A new index of nuclides in the correct format for FISPACT and other data libraries are also generated during this processing phase. The list of nuclide information given in the next section was generated by SAFEPAQ-II from the Parameter database. By using tables in Parameter as the basic source of all decay data it is possible to ensure consistency between the various EAF libraries and FISPACT.

The library EAF_DEC-2005 is split into 10 sub-files for ease of handling, FISPACT expects them to be numbered *library_name*.001 - *library_name*.010. Only the final sub-file is terminated by the TEND line. The first sub-file contains an additional two header lines: the first contains an integer value of the number of header lines and the second a description of the library. FISPACT expects this header and it must be present on any decay library used as input. The nuclides at which the splitting into the 10 sub-files occurs is determined by SAFEPAQ-II by reading data from a Table in Parameter. This lists the nuclides that end each sub-file. These nuclides are shown in Table 3.

Table 3. Last nuclides in sub-files of EAF_DEC-2005.

Sub-file	Last nuclide in sub-file
1	Br- 88
2	Ru-111
3	Sn-131m
4	Cs-141
5	Eu-163
6	Tm-179
7	Re-198
8	Tl-210
9	Ac-234

Library contents

The content of EAF_DEC-2005 is listed below. The nuclides that have been added (+) or changed (>) since EAF-2003 are indicated. Column 1 shows the ID of the nuclide as used in FISPACT, column 2 is the nuclide name, column 3 is the nuclide spin, column 4 shows the decay modes, column 5 is the nuclide half-life, column 6 the uncertainty in the half-life, column 7 is the heavy particle energy (mean α), column 8 is the light particle energy (mean β), column 9 is the photon energy (mean γ) and column 10 is the data source number. To aid readability zero values in columns 4 - 9 are replaced by blanks. The key to symbols is given at the end of the listing.

	ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
	1	H-1	0.5							1
	2	H-2	1.0							1
	3	H-3	0.5	β^-	12.330 y	0.16		5.7074E+03		2
	4	He-3	0.5							1
	5	He-4	0.0							1
	6	He-6	0.0	β^-	0.808 s	0.25		1.5613E+06	5.6441E+03	2
>	7	Li-5	1.5	p	3.00E-22 s	0.00	1.9650E+06			8
	8	Li-6	1.0							1
	9	Li-7	1.5							1
	10	Li-8	2.0	β^-,α	0.838 s	0.72	3.1253E+06	6.2046E+06	3.2983E+04	2
	11	Li-9	1.5	β^-:50.5;β^-,n:49.5	0.178 s	0.22		5.6963E+06	2.9896E+04	2
	12	Be-6	0.0	p	5.00E-21 s	6.00				13
	13	Be-7	1.5	β^+	53.240 d	0.08			4.9296E+04	2
	14	Be-8	0.0	α	7.00E-17 s	28.57	9.1898E+04			2
	15	Be-9	1.5							1
	16	Be-10	0.0	β^-	1.60E+06 y	12.50		2.5221E+05		2
	17	Be-11	0.5	β^-:97.0;β^-,α:3.0	13.810 s	0.58	3.6273E+04	4.6473E+06	1.4188E+06	2
+	18	Be-12	0.0	β^-	0.024 s	12.50	5.8400E+03	5.5900E+06	3.9023E+06	6
+	19	Be-13	0.5	n	2.70E-21 s	0.00				8
	20	B-8	2.0	β^+	0.770 s	0.39		5.9870E+00	5.9870E+00	13
>	21	B-9	1.5	p	8.00E-19 s	0.00	1.8504E+05			8
	22	B-10	3.0							1
	23	B-11	1.5							1
	24	B-12	1.0	β^-:98.42;β^-,α:1.58	0.020 s	0.10	6.6417E+03	6.3084E+06	9.0565E+04	2
	25	B-13	1.5	β^-:99.7;β^-,n:0.28	0.017 s	0.98	1.2997E+04	6.2783E+06	3.1353E+05	2
+	26	B-14	2.0	β^-	0.016 s	7.45	1.2600E+04	7.1000E+06	5.6000E+06	6
+	27	B-15	1.5	β^-:6.0;β^-,n:93.6	0.010 s	0.00		3.8188E+05	3.8188E+05	8
	28	C-9	1.5	β^+	0.127 s	0.71		5.4991E+06	5.4991E+06	13
	29	C-10	0.0	β^+	19.260 s	0.31		1.2170E+06	7.2270E+05	6
	30	C-11	1.5	β^+	20.385 m	0.10		3.8460E+05	1.0195E+06	6
	31	C-12	0.0							1
	32	C-13	0.5							1
	33	C-14	0.0	β^-	5730.121 y	0.70		4.9476E+04		2

	ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
	34	C-15	0.5	β^-	2.449 s	0.20		2.8562E+06	3.6218E+06	2
+	35	C-16	0.0	β^-:2.0;β^-,n:98.0	0.747 s	1.07	1.1200E+03	2.0470E+06	7.1000E+03	6
+	36	C-17	?	β^-:71.6;β^-,n:28.4	0.193 s	0.00		3.1422E+06	3.1422E+06	8
+	37	N-11	0.5	p	5.00E-22 s	0.00	1.9730E+06			8
	38	N-12	1.0	β^+	0.011 s	0.15		7.6000E+06	1.0850E+06	13
	39	N-13	0.5	β^+	9.965 m	0.04		4.9011E+05	1.0207E+06	2
	40	N-14	1.0							1
	41	N-15	0.5							1
	42	N-16	2.0	β^-:100.0;β^-,α:~	7.130 s	0.28	2.9699E+01	2.6795E+06	4.6215E+06	2
	43	N-17	0.5	β^-:5.0;β^-,n:95.0	4.170 s	0.10	9.0113E+05	1.6978E+06	4.4508E+04	2
	44	N-18	1.0	β^-	0.630 s	4.76		4.5630E+06	4.5700E+06	13
+	45	N-19	0.5	β^-:45.4;β^-,n:54.6	0.271 s	0.00		1.8957E+06	1.8957E+06	8
+	46	N-20	?	β^-:43.0;β^-,n:57.0	0.130 s	0.00		2.5756E+06	2.5756E+06	8
	47	O-14	0.0	β^+	1.177 m	0.03		7.7700E+05	3.3189E+06	6
	48	O-15	0.5	β^+	2.037 m	0.13		7.3440E+05	1.0208E+06	6
	49	O-16	0.0							1
	50	O-17	2.5							1
	51	O-18	0.0							1
	52	O-19	2.5	β^-	26.910 s	0.30		1.7096E+06	1.0046E+06	2
	53	O-20	0.0	β^-	13.570 s	0.74		1.1990E+06	1.0350E+06	6
+	54	O-21	?	β^-	3.420 s	0.00		2.7031E+06	2.7031E+06	8
+	55	O-22	0.0	β^-:78.0;β^-,n:22.0	2.250 s	0.00		1.6876E+06	1.6876E+06	8
+	56	F-15	0.5	p	4.60E-22 s	0.00	1.4816E+06			8
+	57	F-16	0.0	p	1.10E-20 s	0.00	5.3587E+05			8
	58	F-17	2.5	β^+	1.075 m	0.37		7.3900E+05	1.0200E+06	13
	59	F-18	1.0	β^+	1.828 h	0.09		2.4149E+05	9.8727E+05	2
	60	F-19	0.5							1
	61	F-20	2.0	β^-	11.030 s	0.27		2.4673E+06	1.6447E+06	2
	62	F-21	2.5	β^-	4.320 s	0.69		2.4400E+06	3.5000E+05	6
	63	F-22	4.0	β^-	4.240 s	0.94		2.3600E+06	5.7500E+06	13
	64	F-23	1.5	β^-	2.230 s	6.28		8.0000E+06	2.1200E+06	13
+	65	F-24	?	β^-:94.1;β^-,n:5.9	0.400 s	0.00		4.2320E+06	4.2320E+06	8
+	66	Ne-17	0.5	β^+:1.3;β^+,p:96.0	0.109 s	0.00		6.2978E+04	6.2978E+04	8
	67	Ne-18	0.0	β^+	1.672 s	0.30		1.5040E+06	1.1060E+06	6
	68	Ne-19	0.5	β^+	17.220 s	0.12		9.6330E+05	1.0220E+06	6
	69	Ne-20	0.0							1
	70	Ne-21	1.5							1
	71	Ne-22	0.0							1
	72	Ne-23	2.5	β^-	37.200 s	0.54		1.8901E+06	1.7279E+05	2
	73	Ne-24	0.0	β^-	3.380 m	0.59		8.0200E+05	5.4200E+05	6
	74	Ne-25	0.5	β^-	0.602 s	1.33		3.5000E+06	3.2400E+05	13
+	75	Ne-26	0.0	β^-:99.87;β^-,n:0.13	0.197 s	0.00		2.4409E+06	2.4409E+06	8
+	76	Ne-27	1.5	β^-:98.0;β^-,n:2.0	0.032 s	0.00		4.1403E+06	4.1403E+06	8
	77	Na-20	2.0	β^+	0.446 s	0.67		4.7600E+06	2.3510E+06	13
	78	Na-21	1.5	β^+	22.490 s	0.18		1.1020E+06	1.0370E+06	6
	79	Na-22	3.0	β^+	2.603 y	0.12		1.9576E+05	2.1989E+06	2
	80	Na-23	1.5							1
	81	Na-24	4.0	β^-	14.965 h	0.03		5.5360E+05	4.1222E+06	2
	82	Na-24m	1.0	β^-:0.5;IT:99.5	0.020 s	0.50		1.3769E+04	4.7000E+05	2
	83	Na-25	2.5	β^-	59.600 s	1.17		1.4965E+06	4.3690E+05	2
	84	Na-26	3.0	β^-	1.080 s	0.93		3.3295E+06	2.1803E+06	2
	85	Na-27	2.5	β^-	0.304 s	2.30		3.7000E+06	1.0800E+06	13
	86	Na-28	1.0	β^-	0.031 s	1.31		6.1000E+06	1.1400E+06	13
+	87	Na-29	?	β^-	0.043 s	3.50	2.5000E+03	5.1000E+06	4.4700E+06	6
+	88	Na-30	2.0	β^-:68.83;β^-,n:30.0	0.048 s	0.00		4.0097E+06	4.0097E+06	16
+	89	Mg-21	?	β^+:70.7;β^+,p:29.3	0.122 s	2.46	3.2000E+03	4.7000E+06	1.5100E+06	6
	90	Mg-22	0.0	β^+	3.857 s	0.23		1.3690E+06	1.7220E+06	6
	91	Mg-23	1.5	β^+	11.317 s	0.10		1.3380E+06	1.0580E+06	6
	92	Mg-24	0.0							1
	93	Mg-25	2.5							1
	94	Mg-26	0.0							1
	95	Mg-27	0.5	β^-	9.458 m	0.13		6.9962E+05	8.9499E+05	2
	96	Mg-28	0.0	β^-	20.900 h	0.14		1.9786E+05	1.3800E+06	2
	97	Mg-29	1.5	β^-	1.300 s	9.23		2.6000E+06	1.8600E+06	6
+	98	Mg-30	0.0	β^-:99.94;β^-,n:0.06	0.335 s	0.00		2.3287E+06	2.3287E+06	8
+	99	Mg-31	1.5	β^-:98.3;β^-,n:1.7	0.230 s	0.00		3.8465E+06	3.8465E+06	8
+	100	Al-23	?	β^+	0.470 s	0.00		4.0793E+06	4.0793E+06	6
	101	Al-24	4.0	β^+	2.066 s	0.48		1.9900E+06	9.5000E+06	13
	102	Al-24m	1.0	β^+:7.0;IT:93.0	0.130 s	3.08		4.4000E+05	5.3800E+05	6
	103	Al-25	2.5	β^+	7.183 s	0.17		1.4536E+06	1.0352E+06	6
	104	Al-26	5.0	β^+	7.20E+05 y	4.17		4.4615E+05	2.6781E+06	2

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
105	Al-26m	0.0	β^+	6.345 s	0.09		1.4338E+06	1.0261E+06	2
106	Al-27	2.5							1
107	Al-28	3.0	β^-	2.241 m	0.13		1.2376E+06	1.7829E+06	2
108	Al-29	2.5	β^-	6.560 m	0.91		9.7276E+05	1.3809E+06	2
109	Al-30	3.0	β^-	3.650 s	1.64		2.2902E+06	3.5124E+06	2
110	Al-31	?	β^-	0.640 s	4.69		2.6166E+06	3.2600E+06	6
111	Al-32	1.0	β^-	0.033 s	12.12		5.9000E+06	2.3297E+05	13
+ 112	Al-33	2.5	β^-:91.5;β^-,n:8.5	0.041 s	0.00		3.6562E+06	3.6562E+06	8
+ 113	Al-34	4.0	β^-:87.5;β^-,n:12.5	0.042 s	0.00		4.9858E+06	4.9858E+06	8
+ 114	Si-25	2.5	β^+	0.220 s	1.36	1.2700E+03	2.3300E+06	1.0200E+06	6
115	Si-26	0.0	β^+	2.210 s	0.95		1.6190E+06	1.2570E+06	6
116	Si-27	2.5	β^+	4.170 s	0.24		1.7154E+06	1.0265E+06	6
117	Si-28	0.0							1
118	Si-29	0.5							1
119	Si-30	0.0							1
120	Si-31	1.5	β^-	2.620 h	0.38		5.9375E+05	2.1724E+03	2
121	Si-32	0.0	β^-	330.007 y	12.12		6.4675E+04		2
122	Si-33	?	β^-	6.180 s	2.91		2.0000E+06	2.3000E+06	6
123	Si-34	0.0	β^-	2.770 s	7.22		7.0000E+05	1.5900E+06	6
+ 124	Si-35	3.5	β^-:94.74;β^-,n:5.26	0.780 s	0.00		3.3152E+06	3.3152E+06	8
+ 125	Si-36	0.0	β^-:88.0;β^-,n:12.0	0.450 s	0.00		2.3027E+06	2.3027E+06	8
126	P-28	3.0	β^+	0.270 s	0.18		4.5600E+06	4.6200E+06	13
127	P-29	0.5	β^+	4.140 s	0.34		1.7709E+06	2.4000E+06	6
128	P-30	1.0	β^+	2.498 m	0.16		1.4354E+06	1.0221E+06	6
129	P-31	0.5							1
130	P-32	1.0	β^-	14.270 d	0.28		6.9292E+05	1.7104E+03	2
131	P-33	0.5	β^-	25.400 d	0.39		7.6573E+04		2
132	P-34	1.0	β^-	12.400 s	0.81		2.2846E+06	3.4748E+05	2
133	P-35	0.5	β^-	47.300 s	1.48		1.0600E+06	1.5789E+06	6
134	P-36	?	β^-	5.600 s	5.36		1.8700E+06	6.2820E+06	6
+ 135	P-37	0.5	β^-	2.310 s	0.00		2.6338E+06	2.6338E+06	8
+ 136	P-38	?	β^-:88.0;β^-,n:12.0	0.640 s	0.00		3.6359E+06	3.6359E+06	8
+ 137	P-39	0.5	β^-:74.0;β^-,n:26.0	0.190 s	0.00		2.5929E+06	2.5929E+06	8
+ 138	P-40	?	β^-:70.0;β^-,n:30.0	0.290 s	0.00		3.3863E+06	3.3863E+06	8
+ 139	S-29	2.5	β^+	0.187 s	2.14	3.6000E+03	4.0700E+06	4.6116E+06	6
140	S-30	?	β^+	1.178 s	0.42		2.0840E+06	1.6080E+06	6
141	S-31	0.5	β^+	2.572 s	0.51		1.9961E+06	1.0381E+06	6
142	S-32	0.0							1
143	S-33	1.5							1
144	S-34	0.0							1
145	S-35	1.5	β^-	87.500 d	0.46		4.8832E+04		2
146	S-36	0.0							1
147	S-37	3.5	β^-	4.990 m	0.40		7.9324E+05	2.9369E+06	2
148	S-38	0.0	β^-	2.839 h	0.49		4.9000E+05	1.7000E+06	6
149	S-39	3.5	β^-	11.500 s	4.35		2.2700E+06	1.7800E+06	6
150	S-40	0.0	β^-	9.000 s	24.44		1.6700E+06	1.6700E+06	13
+ 151	S-41	3.5	β^-	2.600 s	0.00		2.9124E+06	2.9124E+06	8
152	Cl-32	1.0	β^+	0.298 s	0.67		3.8100E+06	4.3100E+06	13
153	Cl-33	1.5	β^+	2.511 s	0.12		2.0820E+06	1.0480E+06	13
154	Cl-34	0.0	β^+	1.526 s	0.20		2.0438E+06	1.0292E+06	2
155	Cl-34m	3.0	β^+:52.0;IT:48.0	32.100 m	0.31		4.4140E+05	1.9791E+06	2
156	Cl-35	1.5							1
157	Cl-36	2.0	β^-:98.1;β^+:1.9	3.07E+05 y	0.98		2.4609E+05	2.7180E+01	2
158	Cl-37	1.5							1
159	Cl-38	2.0	β^-	37.200 m	0.27		1.5230E+06	1.4937E+06	2
160	Cl-38m	5.0	IT	0.715 s	0.42		4.2949E+02	6.7130E+05	2
161	Cl-39	1.5	β^-	55.600 m	0.36		8.2300E+05	1.4500E+06	6
162	Cl-40	2.0	β^-	1.350 m	1.48		1.5700E+06	4.0400E+06	6
163	Cl-41	?	β^-	34.000 s	8.82		1.5200E+06	1.8900E+06	6
164	Cl-42	?	β^-	6.800 s	4.41		3.3333E+06	3.3333E+06	6
+ 165	Cl-43	?	β^-	3.300 s	6.06		2.5700E+06	2.5700E+06	6
+ 166	Cl-44	?	β^-:92.0;β^-,n:8.0	0.560 s	0.00		3.7631E+06	3.7631E+06	8
+ 167	Cl-45	1.5	β^-:76.0;β^-,n:24.0	0.400 s	0.00		2.7385E+06	2.7385E+06	8
+ 168	Ar-33	0.5	β^+:66.0;β^+,p:34.0	0.173 s	1.16	1.4400E+03	3.8000E+06	1.3830E+06	6
169	Ar-34	0.0	β^+	0.845 s	0.47		2.2890E+06	1.1050E+06	6
170	Ar-35	1.5	β^+	1.775 s	0.23		2.2655E+06	1.0495E+06	6
171	Ar-36	0.0							1
172	Ar-37	1.5	β^+	35.040 d	0.29		2.3554E+03	3.2353E+02	2
173	Ar-38	0.0							1
174	Ar-39	3.5	β^-	269.006 y	3.35		2.1865E+05		2
175	Ar-40	0.0							1

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
176	Ar-41	3.5	β^-	1.827 h	0.36		4.6360E+05	1.2845E+06	2
177	Ar-42	0.0	β^-	33.001 y	6.06		2.3282E+05		2
178	Ar-43	?	β^-	5.367 m	1.24		1.3900E+06	1.5400E+06	6
179	Ar-44	0.0	β^-	11.867 m	0.42		8.6000E+05	1.8200E+06	6
180	Ar-45	3.5	β^-	21.480 s	0.70		2.0000E+06	2.9800E+06	6
181	Ar-46	0.0	β^-	8.400 s	7.14		1.7300E+06	1.9570E+06	6
+ 182	Ar-47	1.5	β^-:99.0;β^-,n:1.0	0.580 s	0.00		3.2302E+06	3.2302E+06	8
183	K-36	2.0	β^+:99.95;β^+,α:~	0.342 s	0.58	1.5300E+03	3.5000E+06	5.4800E+06	6
184	K-37	1.5	β^+	1.226 s	0.57		2.3470E+06	1.0720E+06	6
185	K-38	3.0	β^+	7.610 m	0.53		1.2013E+06	3.1905E+06	2
186	K-38m	0.0	β^+	0.924 s	0.22		2.3124E+06	1.0306E+06	2
187	K-39	1.5							1
188	K-40	4.0	β^-:89.3;β^+:10.7	1.28E+09 y	0.78		5.2175E+05	1.5720E+05	2
189	K-41	1.5							1
190	K-42	2.0	β^-	12.370 h	0.16		1.4171E+06	2.9638E+05	2
191	K-43	1.5	β^-	22.200 h	0.90		3.0956E+05	9.6616E+05	2
192	K-44	2.0	β^-	22.130 m	0.86		1.4361E+06	2.3913E+06	2
193	K-45	1.5	β^-	17.333 m	3.85		9.9100E+05	1.8600E+06	6
194	K-46	2.0	β^-	1.583 m	5.26		2.3220E+06	2.8700E+06	6
195	K-47	0.5	β^-	17.500 s	1.71		1.8400E+06	2.6240E+06	6
196	K-48	2.0	β^-	6.800 s	2.94		2.7500E+06	6.3100E+06	13
+ 197	Ca-37	1.5	β^+:24.0;β^+,p:76.0	0.175 s	1.71	1.1100E+03	3.2700E+06	1.1400E+06	6
198	Ca-38	0.0	β^+	0.440 s	1.82		2.4300E+06	1.3700E+06	6
199	Ca-39	1.5	β^+	0.860 s	0.16		2.5594E+06	1.0213E+06	13
200	Ca-40	0.0							1
201	Ca-41	3.5	β^+	1.03E+05 y	3.88		2.8431E+03	4.3712E+02	2
202	Ca-42	0.0							1
203	Ca-43	3.5							1
204	Ca-44	0.0							1
205	Ca-45	3.5	β^-	162.700 d	0.25		7.7216E+04	1.1674E-02	2
206	Ca-46	0.0							1
207	Ca-47	3.5	β^-	4.538 d	0.04		3.4461E+05	1.0604E+06	2
208	Ca-48	0.0							1
209	Ca-49	1.5	β^-	8.720 m	0.23		8.6951E+05	3.1671E+06	2
210	Sc-40	4.0	β^+:99.54;β^+,α:0.02	0.182 s	0.38	1.5600E+03	3.4000E+06	7.1100E+06	13
211	Sc-41	3.5	β^+	0.596 s	0.29		2.5413E+06	1.0220E+06	13
212	Sc-42	0.0	β^+	0.681 s	0.10		2.5068E+06	1.0212E+06	13
213	Sc-42m	7.0	β^+	1.027 m	0.81		1.2546E+06	4.2040E+06	7
214	Sc-43	3.5	β^+	3.892 h	0.36		4.2000E+05	9.8300E+05	6
215	Sc-44	2.0	β^+	3.927 h	0.20		5.9565E+05	2.1365E+06	2
216	Sc-44m	6.0	β^+:1.23;IT:98.77	2.442 d	0.17		3.2820E+04	2.7527E+05	2
217	Sc-45	3.5							1
218	Sc-45m	1.5	IT	0.316 s	2.85		8.6000E+03	6.1000E+02	6
219	Sc-46	4.0	β^-	83.790 d	0.05		1.1224E+05	2.0095E+06	2
220	Sc-46m	1.0	IT	18.700 s	0.37		5.8900E+04	8.2959E+04	2
221	Sc-47	3.5	β^-	3.346 d	0.06		1.6253E+05	1.0853E+05	2
222	Sc-48	6.0	β^-	1.820 d	0.21		2.1959E+05	3.3496E+06	2
223	Sc-49	3.5	β^-	57.200 m	0.35		8.1988E+05	3.3403E+03	2
224	Sc-50	5.0	β^-	1.708 m	0.49		1.6241E+06	3.1981E+06	2
225	Sc-50m	2.0	β^-:1.25;IT:98.75	0.350 s	8.57		4.0686E+04	2.6440E+05	2
+ 226	Sc-51	3.5	β^-	12.400 s	0.81		1.8440E+06	2.3500E+06	6
+ 227	Sc-52	3.0	β^-	8.200 s	0.00		3.0279E+06	3.0279E+06	8
+ 228	Ti-41	1.5	β^+:99.9;β^+,p:0.1	0.080 s	2.50	1.1670E+03	3.4300E+06	1.0960E+06	6
229	Ti-42	0.0	β^+	0.199 s	3.02		2.6000E+06	1.3900E+06	6
230	Ti-43	3.5	β^+	0.490 s	2.04		2.7280E+06	1.0220E+06	6
231	Ti-44	0.0	β^+	47.216 y	2.68		1.0580E+04	1.3800E+05	6
232	Ti-45	3.5	β^+	3.080 h	0.32		3.7334E+05	8.7185E+05	2
233	Ti-46	0.0							1
234	Ti-47	2.5							1
235	Ti-48	0.0							1
236	Ti-49	3.5							1
237	Ti-50	0.0							1
238	Ti-51	1.5	β^-	5.800 m	0.52		8.6893E+05	3.6456E+05	2
239	Ti-52	0.0	β^-	1.700 m	5.88		7.5100E+05	1.2840E+05	6
240	Ti-53	1.5	β^-	32.700 s	2.75		1.4100E+06	1.9700E+06	6
+ 241	Ti-54	0.0	β^-	1.500 s	0.00		1.3742E+06	1.3742E+06	8
+ 242	Ti-55	1.5	β^-	0.460 s	0.00		2.4473E+06	2.4473E+06	8
243	V-44	?	β^+:50.0;β^+,α:50.0	0.090 s	33.33		4.2427E+06	4.2427E+06	7
244	V-45	3.5	β^+	0.539 s	3.34		2.8500E+06	1.0230E+06	6
245	V-46	0.0	β^+	0.422 s	0.05		2.8144E+06	1.0210E+06	13
246	V-47	1.5	β^+	32.600 m	0.92		8.0290E+05	9.9500E+05	6

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
247	V-48	4.0	β^+	15.974 d	0.02		1.4928E+05	2.9159E+06	2
248	V-49	3.5	β^+	330.000 d	6.06		3.5832E+03	9.4695E+02	2
249	V-50	6.0	β^+	1.49E+17 y	21.28		2.3840E+03	1.0883E+06	6
250	V-51	3.5							1
251	V-52	3.0	β^-	3.745 m	0.13		1.0643E+06	1.4484E+06	2
252	V-53	3.5	β^-	1.620 m	2.47		1.0051E+06	1.0416E+06	2
253	V-54	3.0	β^-	49.800 s	1.00		1.3575E+06	4.0975E+06	2
+ 254	V-55	3.5	β^-	6.540 s	2.29		2.3800E+06	6.8900E+05	6
+ 255	V-56	3.0	β^-	0.233 s	0.00		3.0164E+06	3.0164E+06	8
+ 256	V-57	3.5	β^-:99.6;β^-,n:0.4	0.320 s	0.00		2.6615E+06	2.6615E+06	8
+ 257	V-58	3.0	β^-:20.0;β^-,n:80.0	0.203 s	0.00		7.7004E+05	7.7004E+05	8
258	Cr-46	0.0	β^+	0.260 s	23.08		3.0920E+06	1.0220E+06	6
259	Cr-47	1.5	β^+	0.508 s	1.97		3.0100E+06	1.0250E+06	6
260	Cr-48	0.0	β^+	21.561 h	0.14		8.2000E+03	4.3200E+05	6
261	Cr-49	2.5	β^+	41.900 m	0.72		5.9649E+05	1.0472E+06	2
262	Cr-50	0.0							1
263	Cr-51	3.5	β^+	27.706 d	0.03		3.8540E+03	3.2753E+04	2
264	Cr-52	0.0							1
265	Cr-53	1.5							1
266	Cr-54	0.0							1
267	Cr-55	1.5	β^-	3.540 m	0.85		1.0965E+06	4.2428E+03	2
268	Cr-56	0.0	β^-	5.933 m	1.69		6.0700E+05	9.2800E+04	6
269	Cr-57	?	β^-	21.100 s	4.74		1.9000E+06	4.5000E+05	6
270	Cr-58	0.0	β^-	7.000 s	4.29		1.2600E+06	1.2600E+06	13
+ 271	Cr-59	2.5	β^-	0.460 s	0.00		2.5408E+06	2.5408E+06	8
272	Mn-48	4.0	β^+	0.150 s	1.47		4.1950E+06	4.1950E+06	13
273	Mn-49	2.5	β^+	0.384 s	4.43		3.1400E+06	1.0400E+06	6
274	Mn-50	0.0	β^+	0.283 s	0.14		3.1029E+06	1.0220E+06	13
275	Mn-50m	5.0	β^+	1.750 m	1.71		1.6600E+06	4.7800E+06	6
276	Mn-51	2.5	β^+	46.200 m	0.22		9.3540E+05	9.9770E+05	6
277	Mn-52	6.0	β^+	5.591 d	0.06		7.4200E+04	3.4660E+06	6
278	Mn-52m	2.0	β^+:98.32;IT:1.68	21.100 m	0.95		1.0641E+06	2.4521E+06	6
279	Mn-53	3.5	β^+	3.68E+06 y	5.71		4.0016E+03	1.4222E+03	2
280	Mn-54	3.0	β^+	312.300 d	0.13		4.2093E+03	8.3604E+05	2
281	Mn-55	2.5							1
282	Mn-56	3.0	β^-	2.579 h	0.12		8.2381E+05	1.7007E+06	2
283	Mn-57	2.5	β^-	1.610 m	3.11		1.0972E+06	7.5197E+04	6
284	Mn-58	3.0	β^-	1.087 m	0.77		1.7114E+06	2.3822E+06	2
285	Mn-58m	0.0	β^-	2.700 s	22.22		2.8284E+06	1.2007E+05	2
286	Mn-59	?	β^-	4.600 s	2.17		1.0000E+06	6.8400E+05	6
287	Mn-60	3.0	β^-	1.790 s	5.59		2.7200E+06	2.6900E+06	6
+ 288	Mn-60m	3.0	β^-	1.790 s	5.59		2.7200E+06	2.6900E+06	16
+ 289	Mn-61	2.5	β^-	0.670 s	0.00		2.3941E+06	2.3941E+06	8
+ 290	Mn-62	3.0	β^-	0.880 s	0.00		3.4774E+06	3.4774E+06	8
+ 291	Mn-63	2.5	β^-	0.275 s	0.00		3.0092E+06	3.0092E+06	8
+ 292	Mn-64	1.0	β^-	0.087 s	0.00		3.9930E+06	3.9930E+06	8
293	Fe-49	0.0							1
294	Fe-50	0.0	β^+	0.150 s	20.00		2.3780E+06	2.3780E+06	13
295	Fe-51	2.5	β^+	0.310 s	1.61		3.2900E+06	1.0340E+06	6
296	Fe-52	0.0	β^+	8.275 h	0.10		1.9300E+05	7.4700E+05	6
297	Fe-52m	12.0	β^+:80.0;IT:20.0	46.000 s	4.35		2.0000E+06	3.6300E+06	6
298	Fe-53	3.5	β^+	8.510 m	0.82		1.1070E+06	1.1843E+06	2
299	Fe-53m	9.5	IT	2.580 m	1.16			3.0347E+06	2
300	Fe-54	0.0							1
301	Fe-55	1.5	β^+	2.735 y	0.80		4.2207E+03	1.6701E+03	2
302	Fe-56	0.0							1
303	Fe-57	0.5							1
304	Fe-58	0.0							1
305	Fe-59	1.5	β^-	44.502 d	0.01		1.1790E+05	1.1892E+06	2
306	Fe-60	0.0	β_m^-	1.50E+06 y	20.00		8.7668E+04		2
307	Fe-61	1.5	β^-	5.980 m	1.00		1.0548E+06	1.3910E+06	6
308	Fe-62	0.0	β^-	1.133 m	2.94		8.4400E+05	5.0610E+05	6
309	Fe-63	2.5	β^-	6.100 s	9.84		2.6043E+06	3.1773E+05	2
310	Fe-64	0.0	β^-	2.000 s	10.00		1.4800E+06	1.4800E+06	13
311	Fe-65	?	β^-	0.400 s	50.00		2.2930E+06	2.2930E+06	13
+ 312	Co-52	6.0	β_g^+:50.0;β_m^+:50.0	0.115 s	0.00		3.6677E+06	3.6677E+06	8
+ 313	Co-53	3.5	β^+	0.240 s	8.33		3.4000E+06	1.1000E+06	6
314	Co-54	0.0	β^+	0.193 s	0.07		3.3992E+06	1.0209E+06	13
315	Co-54m	7.0	β^+	1.480 m	1.35		2.0472E+06	3.9300E+06	7
316	Co-55	3.5	β^+	17.530 h	0.17		4.3658E+05	2.0070E+06	2
317	Co-56	4.0	β^+	77.260 d	0.10		1.2102E+05	3.5898E+06	2

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
318	Co-57	3.5	β^+	271.791 d	0.03		2.0005E+04	1.2399E+05	2
319	Co-58	2.0	β^+	70.860 d	0.10		3.4311E+04	9.7620E+05	2
320	Co-58m	5.0	IT	8.940 h	1.90		2.3146E+04	1.8226E+03	2
321	Co-59	3.5							1
322	Co-60	5.0	β^-	5.272 y	0.03		9.6708E+04	2.5040E+06	2
323	Co-60m	2.0	β^-:0.25;IT:99.75	10.470 m	0.29		5.6497E+04	6.7907E+03	2
324	Co-61	3.5	β^-	1.650 h	0.30		4.6277E+05	9.0724E+04	13
325	Co-62	2.0	β^-	1.500 m	2.67		1.6137E+06	1.6017E+06	6
326	Co-62m	5.0	β^-:99.0;IT:1.0	13.910 m	0.36		1.0110E+06	2.6982E+06	7
327	Co-63	3.5	β^-	27.400 s	1.82		1.5864E+06	1.1927E+05	6
328	Co-64	1.0	β^-	0.300 s	10.00		3.3169E+06	1.9255E+05	6
329	Co-65	?	β^-	1.250 s	4.00		1.9867E+06	1.9867E+06	6
330	Co-66	3.0	β^-	0.230 s	8.70		3.2200E+06	2.7500E+06	6
+ 331	Co-67	3.5	β^-	0.425 s	0.00		2.8070E+06	2.8070E+06	8
+ 332	Co-68	7.0	β^-	0.200 s	0.00		3.8859E+06	3.8859E+06	8
+ 333	Co-68m	3.0	β^-:50.0;IT:50.0	1.600 s	0.00		1.9680E+06	2.0430E+06	8
+ 334	Co-69	3.5	β^-:99.0;β^-,n:1.0	0.220 s	0.00		3.0795E+06	3.0795E+06	16
+ 335	Ni-53	3.5	β^+	0.045 s	33.33		1.6600E+06	4.5990E+05	6
+ 336	Ni-54	0.0	β^+	0.143 s	0.00		2.9331E+06	2.9331E+06	16
337	Ni-55	3.5	β^+	0.189 s	2.65		3.6230E+06	1.0210E+06	6
338	Ni-56	0.0	β^+	6.100 d	0.33		7.0765E+03	1.7207E+06	6
339	Ni-57	1.5	β^+	1.488 d	0.34		1.6212E+05	1.9600E+06	2
340	Ni-58	0.0							1
341	Ni-59	1.5	β^+	7.60E+04 y	6.58		4.6224E+03	2.5439E+03	2
342	Ni-60	0.0							1
343	Ni-61	1.5							1
344	Ni-62	0.0							1
345	Ni-63	0.5	β^-	99.002 y	7.07		1.7139E+04		2
346	Ni-64	0.0							1
347	Ni-65	2.5	β^-	2.520 h	0.04		6.2970E+05	5.4993E+05	2
348	Ni-66	0.0	β^-	2.267 d	0.92		6.5239E+04		2
349	Ni-67	0.5	β^-	21.000 s	4.76		1.5232E+06	5.0252E+04	2
350	Ni-68	0.0	β^-	19.000 s	23.68		6.8533E+05	6.8533E+05	13
351	Ni-69	?	β^-	11.400 s	2.63		1.1400E+06	2.7900E+06	6
352	Ni-70	0.0	β^-	0.166 s	90.36		1.3870E+06	1.3870E+06	13
353	Ni-71	?	β^-	1.860 s	18.82		2.3430E+06	2.3430E+06	13
354	Cu-56	4.0	β^+	0.022 s	91.74		4.7650E+06	4.7650E+06	13
355	Cu-57	1.5	β^+	0.233 s	6.87		3.6200E+06	1.0600E+06	6
356	Cu-58	1.0	β^+	3.204 s	0.22		3.3000E+06	1.5400E+06	6
357	Cu-59	1.5	β^+	1.358 m	0.61		1.4900E+06	1.4430E+06	6
358	Cu-60	2.0	β^+	24.383 m	0.41		9.0000E+05	3.9100E+06	6
359	Cu-61	1.5	β^+	3.408 h	0.33		3.1000E+05	8.3000E+05	6
360	Cu-62	1.0	β^+	9.750 m	0.10		1.2829E+06	1.0117E+06	2
361	Cu-63	1.5							1
362	Cu-64	1.0	β^-:38.86;β^+:61.14	12.702 h	0.02		1.2575E+05	1.9056E+05	2
363	Cu-65	1.5							1
364	Cu-66	1.0	β^-	5.100 m	0.20		1.0706E+06	8.1860E+04	2
365	Cu-67	1.5	β^-	2.579 d	0.16		1.5567E+05	1.1541E+05	2
366	Cu-68	1.0	β^-	31.100 s	4.82		1.4700E+06	1.0200E+06	6
367	Cu-68m	6.0	β^-:16.0;IT:84.0	3.750 m	1.33		2.0400E+05	1.1000E+06	6
368	Cu-69	1.5	β^-	3.000 m	3.33		1.0320E+06	2.2200E+05	6
369	Cu-70	1.0	β^-	4.500 s	2.22		2.8000E+06	5.2000E+05	6
370	Cu-70m	5.0	β^-	47.000 s	10.64		1.7400E+06	2.8300E+06	6
371	Cu-71	1.5	β^-	19.500 s	8.21		1.4580E+06	1.2443E+06	13
372	Cu-72	?	β^-	6.600 s	1.52		2.9700E+06	1.9425E+06	6
+ 373	Cu-73	?	β^-:99.99;β^-,n:0.01	3.900 s	7.69		1.9850E+06	7.2932E+05	6
+ 374	Cu-74	?	β^-:99.71;β^-,n:0.29	1.600 s	9.38		1.9230E+06	4.9000E+06	6
+ 375	Cu-75	?	β^-:96.5;β^-,n:3.5	1.300 s	7.69		2.2270E+06	2.0890E+06	6
376	Zn-58	0.0	β^+	0.065 s	13.85		2.8100E+06	2.8100E+06	13
377	Zn-59	1.5	β^+	0.184 s	1.25		3.8000E+06	1.0600E+06	6
378	Zn-60	0.0	β^+	2.383 m	2.10		1.1200E+06	1.5200E+06	6
379	Zn-61	1.5	β^+	1.485 m	0.22		1.8600E+06	1.5300E+06	6
380	Zn-62	0.0	β^+	9.261 h	0.24		3.2000E+04	4.3900E+05	6
381	Zn-63	1.5	β^+	38.400 m	0.26		9.1674E+05	1.1042E+06	2
382	Zn-64	0.0							1
383	Zn-65	2.5	β^+	244.260 d	0.11		6.9841E+03	5.8252E+05	2
384	Zn-66	0.0							1
385	Zn-67	2.5							1
386	Zn-68	0.0							1
387	Zn-69	0.5	β^-	57.000 m	1.75		3.2100E+05	6.1000E+00	6
388	Zn-69m	4.5	β^-:0.03;IT:99.97	13.760 h	0.22		2.2125E+04	4.1659E+05	6

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
389	Zn-70	0.0							1
390	Zn-71	0.5	β^-	2.450 m	4.08		1.0458E+06	3.1503E+05	6
391	Zn-71m	4.5	β^-:99.95;IT:0.05	3.940 h	1.27		5.3760E+05	1.5742E+06	6
392	Zn-72	0.0	β^-	1.938 d	0.24		1.0260E+05	1.5250E+05	6
393	Zn-73	0.5	β^-	23.500 s	4.26		1.8440E+06	1.1900E+05	7
394	Zn-73m	3.5	β^-:50.0;IT:50.0	5.800 s	13.79		7.4833E+05	8.4608E+05	7
395	Zn-74	0.0	β^-	1.593 m	1.26		8.0000E+05	3.0000E+05	6
396	Zn-75	3.5	β^-	10.200 s	1.96		1.9700E+06	1.8200E+06	6
397	Zn-76	0.0	β^-	5.700 s	5.26		1.3267E+06	1.3267E+06	6
+ 398	Ga-63	1.5	β^+	32.400 s	1.54		1.8880E+06	1.3700E+06	6
399	Ga-64	0.0	β^+	2.630 m	0.44		1.7900E+06	3.4100E+06	6
400	Ga-65	1.5	β^+	15.200 m	1.32		8.0000E+05	1.1400E+06	6
401	Ga-66	0.0	β^+	9.500 h	0.88		9.9000E+05	2.4600E+06	6
402	Ga-67	1.5	β^+	3.261 d	0.03		3.0000E+04	1.5500E+05	6
403	Ga-68	1.0	β^+	1.127 h	0.04		7.4000E+05	9.4800E+05	6
404	Ga-69	1.5							1
405	Ga-70	1.0	β^-:99.59;β^+:0.41	21.140 m	0.14		6.4400E+05	7.3000E+03	6
406	Ga-71	1.5							1
407	Ga-72	3.0	β^-	14.100 h	0.08		5.0300E+05	2.7070E+06	6
408	Ga-73	1.5	β_g^-:0.88; β_m^-:99.12	4.870 h	0.62		4.8565E+05	2.0158E+05	6
409	Ga-74	3.0	β^-	8.117 m	1.64		1.0000E+06	3.0200E+06	6
410	Ga-74m	1.0	IT	9.500 s	10.53		1.6867E+04	4.2963E+04	6
411	Ga-75	1.5	β_g^-:99.3; β_m^-:0.7	2.170 m	4.61		1.3853E+06	6.7089E+04	6
412	Ga-76	3.0	β^-	27.100 s	0.74		2.0740E+06	2.7952E+06	6
413	Ga-77	1.5	β_m^-	13.000 s	2.31		2.1117E+06	4.5702E+05	2
+ 414	Ga-78	3.0	β^-	5.490 s	0.00		2.4385E+06	2.4899E+06	6
+ 415	Ga-79	1.5	β_g^-:94.71; β_m^-:5.2	3.000 s	3.00	2.8000E+05	2.2300E+06	1.8400E+06	6
+ 416	Ge-64	0.0	β^+	1.062 m	3.92		1.0800E+06	1.2130E+06	6
+ 417	Ge-65	?	β^+	30.900 s	1.62		2.1000E+06	1.7000E+06	6
418	Ge-66	0.0	β^+	2.261 h	2.21		9.9000E+04	6.8500E+05	6
419	Ge-67	?	β^+	18.667 m	2.68		1.1920E+06	1.4400E+06	6
420	Ge-68	0.0	β^+	270.822 d	0.10		4.7400E+03	4.1400E+03	6
421	Ge-69	2.5	β^+	1.627 d	0.28		1.2000E+05	9.5000E+05	6
422	Ge-70	0.0							1
423	Ge-71	0.5	β^+	11.435 d	0.30		4.7900E+03	4.2000E+03	6
424	Ge-72	0.0							1
425	Ge-73	4.5							1
426	Ge-73m	0.5	IT	0.500 s	2.20		5.5869E+04	1.1032E+04	6
427	Ge-74	0.0							1
428	Ge-75	0.5	β^-	1.380 h	0.05		4.2117E+05	3.4933E+04	6
429	Ge-75m	3.5	β^-:0.03;IT:99.97	47.700 s	1.47		8.2532E+04	5.6905E+04	6
430	Ge-76	0.0							1
431	Ge-77	3.5	β^-	11.300 h	0.10		6.4300E+05	1.0780E+06	6
432	Ge-77m	0.5	β^-:81.0;IT:19.0	52.900 s	1.13		1.0200E+06	6.6000E+04	6
433	Ge-78	0.0	β^-	1.450 h	1.15		2.3676E+05	2.7806E+05	6
434	Ge-79	0.5	β^-	19.100 s	1.57		1.6300E+06	3.0800E+05	6
435	Ge-79m	3.5	β^-:96.0;IT:4.0	39.000 s	2.56		1.3300E+06	1.7800E+06	6
436	Ge-80	0.0	β^-	29.500 s	1.36		1.0000E+06	4.3000E+05	6
437	Ge-81	4.5	β^-	7.600 s	13.16		1.5800E+06	2.6500E+06	6
438	Ge-81m	0.5	β^-	7.500 s	13.33		2.1858E+06	1.9856E+06	6
+ 439	As-67	?	β^+	42.500 s	2.82		2.0033E+06	1.4700E+06	6
440	As-68	?	β^+	2.527 m	0.53		2.0200E+06	3.7300E+06	6
441	As-69	2.5	β^+	15.233 m	1.09		1.1970E+06	1.1410E+06	6
442	As-70	4.0	β^+	52.600 m	0.57		8.4000E+05	4.1900E+06	6
443	As-71	2.5	β^+	2.720 d	0.26		1.1600E+05	5.7700E+05	6
444	As-72	2.0	β^+	1.083 d	0.43		1.0300E+06	1.7800E+06	6
445	As-73	1.5	β^+	80.301 d	0.09		5.7700E+04	1.5870E+04	6
446	As-74	2.0	β^-:34.0;β^+:66.0	17.780 d	0.17		2.6831E+05	7.5966E+05	2
447	As-75	1.5							1
448	As-76	2.0	β^-	1.097 d	0.27		1.0603E+06	4.3330E+05	6
449	As-77	1.5	β_g^-:99.79; β_m^-:0.21	1.618 d	0.13		2.2600E+05	7.9500E+03	6
450	As-78	2.0	β^-	1.512 h	0.22		1.2800E+06	1.3400E+06	6
451	As-79	1.5	β_g^-:1.06; β_m^-:98.94	9.010 m	1.66		8.3000E+05	2.2000E+04	6
452	As-80	1.0	β^-	16.500 s	1.82		2.1700E+06	8.1000E+05	6
453	As-81	1.5	β_g^-:98.7; β_m^-:1.3	33.000 s	6.06		1.5580E+06	1.4600E+05	6
454	As-82	1.0	β^-	20.000 s	5.00		3.1561E+06	3.4310E+05	2
455	As-82m	5.0	β^-	13.600 s	2.21		2.0372E+06	2.9696E+06	2
+ 456	As-83	1.5	β_g^-:30.0; β_m^-:70.0	13.400 s	2.24		1.3700E+06	2.0200E+06	6
+ 457	As-84	?	β^-:99.72;β^-,n:0.28	5.500 s	5.45		2.0000E+06	5.3400E+06	6
+ 458	Se-68	?	β^+	2.000 s	0.00		1.6000E+06	1.6000E+06	6
+ 459	Se-69	?	β^+:99.96;β^+,p:0.05	27.400 s	0.73		2.3000E+06	1.8700E+06	6

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460	Se-70	0.0	β^+	41.100 m	0.73		4.8000E+05	9.4546E+05	6
461	Se-71	2.5	β^+	4.733 m	1.06		8.8000E+05	1.3000E+06	6
462	Se-72	0.0	β^+	8.403 d	0.96		2.2500E+04	3.4300E+04	6
463	Se-73	4.5	β^+	7.139 h	1.17		3.9000E+05	1.1440E+06	6
464	Se-73m	1.5	β^+:27.4;IT:72.6	39.833 m	3.35		1.6300E+05	2.6400E+05	6
465	Se-74	0.0							1
466	Se-75	2.5	β^+	119.640 d	0.20		1.4650E+04	3.9020E+05	2
467	Se-76	0.0							1
468	Se-77	0.5							1
469	Se-77m	3.5	IT	17.360 s	0.29		7.0800E+04	8.7700E+04	6
470	Se-78	0.0							1
471	Se-79	3.5	β^-	1.12E+06 y	10.71		5.2590E+04		2
472	Se-79m	0.5	IT:99.94;β^-:0.06	3.900 m	0.51		8.1866E+04	1.3961E+04	2
473	Se-80	0.0							1
> 474	Se-81	0.5	β^-	18.390 m	0.71		6.0906E+05	8.5462E+03	3
> 475	Se-81m	3.5	β^-:0.07;IT:99.93	57.280 m	0.03		8.5400E+04	1.8028E+04	3
476	Se-82	0.0	β^-	1.39E+20 y	29.55		9.9832E+05	9.9832E+05	6
477	Se-83	4.5	β^-	22.333 m	5.22		6.0000E+05	2.4100E+06	6
478	Se-83m	0.5	β^-	1.168 m	0.57		1.3400E+06	9.5400E+05	6
479	Se-84	0.0	β^-	3.100 m	3.23		5.3600E+05	4.2000E+05	6
480	Se-85	2.5	β^-	31.700 s	2.84		1.6200E+06	2.3800E+06	6
+ 481	Br-71	?	β^+	21.400 s	2.80		1.5000E+06	7.6000E+05	6
> 482	Br-72	3.0	β^+	1.310 m	3.05		2.7169E+06	2.9218E+06	3
> 483	Br-72m	1.0	IT	10.600 s	3.77		5.0878E+04	5.0003E+04	3
484	Br-73	1.5	β^+	3.400 m	8.82		1.3500E+06	1.5100E+06	6
485	Br-74	0.0	β^+	25.400 m	1.18		1.0600E+06	4.6300E+06	7
486	Br-74m	4.0	β^+	46.000 m	4.35		1.3400E+06	3.9800E+06	6
487	Br-75	1.5	β^+	1.617 h	2.06		5.0000E+05	1.2000E+06	6
488	Br-76	1.0	β^+	16.194 h	1.37		6.5000E+05	2.7800E+06	6
489	Br-76m	4.0	β^+:0.3;IT:99.7	1.310 s	1.53			3.4000E+04	6
490	Br-77	1.5	β^+	2.377 d	0.01		6.0200E+03	3.2100E+05	6
491	Br-77m	4.5	IT	4.283 m	2.33			1.4400E+04	6
492	Br-78	1.0	β^-:0.01;β^+:99.99	6.460 m	0.62		1.0230E+06	1.0330E+06	6
493	Br-79	1.5							1
494	Br-79m	4.5	IT	4.880 s	0.82		4.9995E+04	1.5716E+05	2
495	Br-80	1.0	β^-:91.7;β^+:8.3	17.600 m	0.28		7.2405E+05	7.7004E+04	2
496	Br-80m	5.0	IT	4.410 h	0.23		6.1759E+04	2.4259E+04	2
497	Br-81	1.5							1
498	Br-82	5.0	β^-	1.472 d	0.08		1.4269E+05	2.6380E+06	2
499	Br-82m	2.0	β^-:2.4;IT:97.6	6.090 m	1.15		7.0088E+04	8.1810E+03	2
500	Br-83	1.5	β_g^-:0.03; β_m^-:99.98	2.390 h	0.84		3.1989E+05	7.5029E+03	6
501	Br-84	2.0	β^-	31.800 m	0.26		1.1000E+06	1.7600E+06	6
502	Br-84m	5.0	β^-	6.000 m	3.33		9.1000E+05	2.7700E+06	7
503	Br-85	1.5	β_g^-:0.27; β_m^-:99.73	2.867 m	1.16		1.0500E+06	6.6000E+04	6
504	Br-86	2.0	β^-	55.000 s	1.45		1.9200E+06	3.4200E+06	6
+ 505	Br-87	1.5	β^-:97.48;β^-,n:2.52	55.690 s	0.23	2.2000E+05	1.8800E+06	3.3400E+06	6
+ 506	Br-88	?	β^-:93.42;β^-,n:6.58	16.500 s	0.61	2.2000E+05	1.6800E+06	4.2900E+06	6
+ 507	Kr-72	0.0	β^+	17.200 s	1.74		1.5300E+06	1.2900E+06	6
+ 508	Kr-73	?	β^+:99.3;β^+,p:0.7	27.000 s	4.44	3.4400E+04	2.4800E+06	1.5700E+06	6
509	Kr-74	0.0	β^+	11.500 m	1.01		7.2000E+05	1.1500E+06	6
510	Kr-75	?	β^+	4.300 m	2.33		1.4100E+06	1.4703E+06	6
511	Kr-76	0.0	β^+	14.806 h	0.75		5.4000E+03	4.2500E+05	6
512	Kr-77	2.5	β^+	1.239 h	0.90		6.1100E+05	1.0200E+06	6
513	Kr-78	0.0							1
514	Kr-79	0.5	β^+	1.460 d	0.29		2.4631E+04	2.5777E+05	2
515	Kr-79m	3.5	IT	50.000 s	6.00		9.0064E+04	3.9801E+04	2
516	Kr-80	0.0							1
517	Kr-81	3.5	β^+	2.10E+05 y	4.76		5.3851E+03	7.3689E+03	2
518	Kr-81m	0.5	β^+:~;IT:100.0	13.200 s	0.76		5.8768E+04	1.3172E+05	2
519	Kr-82	0.0							1
520	Kr-83	4.5							1
521	Kr-83m	0.5	IT	1.830 h	1.09		3.9320E+04	2.4371E+03	2
522	Kr-84	0.0							1
523	Kr-85	4.5	β^-	10.730 y	0.18		2.5065E+05	2.2311E+03	2
524	Kr-85m	0.5	β^-:78.9;IT:21.1	4.480 h	0.18		2.5551E+05	1.5718E+05	2
525	Kr-86	0.0							1
526	Kr-87	4.5	β^-	1.272 h	0.66		1.3500E+06	7.9200E+05	6
527	Kr-88	0.0	β^-	2.840 h	0.70		3.6433E+05	1.9511E+06	6
528	Kr-89	0.0	β^-	3.170 m	0.63		7.7000E+05	3.1300E+06	6
+ 529	Kr-90	0.0	β_g^-:87.8; β_m^-:12.2	32.320 s	0.28		1.2950E+06	1.2370E+06	6
+ 530	Rb-77	1.5	β^+	3.750 m	2.22		1.7000E+06	1.5300E+06	6
531	Rb-78	0.0	β^+	17.667 m	0.47		1.2300E+06	4.1800E+06	6

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
532	Rb-78m	4.0	β^+:90.0;IT:10.0	5.733 m	1.16		1.5700E+06	3.2300E+06	6
533	Rb-79	2.5	β^+	22.833 m	2.19		6.8000E+05	1.4350E+06	6
534	Rb-80	1.0	β^+	34.000 s	11.76		2.0400E+06	1.1900E+06	6
535	Rb-81	1.5	β^+	4.576 h	0.11		1.8600E+05	6.4600E+05	6
536	Rb-81m	4.5	β^+:2.3;IT:97.7	30.483 m	0.98		8.2000E+04	3.4000E+04	6
537	Rb-82	1.0	β^+	1.273 m	0.16		1.4120E+06	1.0930E+06	6
538	Rb-82m	5.0	β^+	6.472 h	0.09		9.5000E+04	2.9300E+06	6
539	Rb-83	2.5	β_g^+:25.0; β_m^+:75.0	86.200 d	0.12		8.6362E+03	4.9607E+05	2
540	Rb-84	2.0	β^-:3.2;β^+:96.8	33.500 d	1.79		1.4404E+05	8.8723E+05	2
541	Rb-84m	6.0	IT	20.400 m	0.49		8.0182E+04	3.8288E+05	2
542	Rb-85	2.5							1
543	Rb-86	2.0	β^-:99.99;β^+:~	18.630 d	0.16		6.6579E+05	9.6745E+04	2
544	Rb-86m	6.0	IT	1.017 m	0.33		9.9598E+03	5.4602E+05	2
545	Rb-87	1.5	β^-	4.80E+10 y	2.71		7.8800E+04		6
546	Rb-88	2.0	β^-	17.800 m	0.56		2.0610E+06	6.3729E+05	6
547	Rb-89	1.5	β^-	15.400 m	1.30		9.2924E+05	2.2342E+06	2
548	Rb-90	1.0	β^-	2.550 m	1.96		1.8650E+06	2.1719E+06	6
549	Rb-90m	4.0	β^-:95.7;IT:4.3	4.300 m	1.94		1.2770E+06	3.6900E+06	6
+ 550	Rb-91	1.5	β^-:99.99;β^-,n:0.01	58.400 s	0.68		1.5600E+06	2.3350E+06	6
+ 551	Rb-92	0.0	β^-:99.99;β^-,n:0.01	4.510 s	0.44	1.9000E+05	3.4990E+06	3.9300E+05	6
+ 552	Rb-93	2.5	β^-:98.65;β^-,n:1.35	5.700 s	1.75	4.0000E+05	2.6300E+06	1.9200E+06	6
+ 553	Rb-94	3.0	β^-:90.0;β^-,n:10.0	2.702 s	0.19	4.1000E+05	2.8300E+06	4.1200E+06	6
+ 554	Sr-78	0.0	β^+	2.650 m	0.00		1.2538E+06	1.2538E+06	16
+ 555	Sr-79	1.5	β^+	2.250 m	4.44		1.8000E+06	1.2836E+06	6
556	Sr-80	0.0	β^+	1.772 h	1.41		2.9000E+04	4.1000E+05	6
557	Sr-81	0.5	β^+	22.300 m	1.79		1.0700E+06	1.5000E+06	6
558	Sr-82	0.0	β^+	25.556 d	0.59		5.0500E+03	7.8800E+03	6
559	Sr-83	3.5	β^+	1.350 d	0.09		1.4899E+05	7.7622E+05	2
560	Sr-83m	0.5	IT	4.950 s	2.42		3.1172E+04	2.2809E+05	2
561	Sr-84	0.0							1
562	Sr-85	4.5	β^+	64.849 d	0.01		9.1627E+03	5.1850E+05	2
563	Sr-85m	0.5	β^+:13.4;IT:86.6	1.127 h	0.07		1.3247E+04	2.1591E+05	2
564	Sr-86	0.0							1
565	Sr-87	4.5							1
566	Sr-87m	0.5	IT:99.7;β^+:0.3	2.808 h	0.21		6.7306E+04	3.2016E+05	2
567	Sr-88	0.0							1
568	Sr-89	2.5	β_g^-:99.99; β_m^-:~	50.520 d	0.16		5.8230E+05	1.2892E+03	2
569	Sr-90	0.0	β^-	28.869 y	0.19		1.9571E+05		2
570	Sr-91	2.5	β_g^-:50.0; β_m^-:50.0	9.520 h	0.63		6.4226E+05	7.0505E+05	6
571	Sr-92	0.0	β^-	2.710 h	0.37		1.7990E+05	1.3810E+06	2
572	Sr-93	0.0	β_g^-:64.4; β_m^-:35.6	7.320 m	1.37		9.5000E+05	1.7600E+06	6
> 573	Sr-94	0.0	β^-	1.255 m	0.53		8.3317E+05	1.4273E+06	3
574	Sr-95	0.5	β^-	25.100 s	0.36		2.0866E+06	1.3414E+06	6
575	Sr-96	0.0	β^-:99.99;β^-,n:0.01	1.060 s	3.77		2.2700E+06	8.9000E+05	6
+ 576	Y-81	0.5	β^+	1.207 m	1.80		2.0300E+06	1.0050E+06	6
577	Y-82	1.0	β^+	9.500 s	3.16		3.1000E+06	1.2600E+06	6
578	Y-83	4.5	β^+	7.083 m	0.94		1.3900E+06	1.4100E+06	6
579	Y-83m	0.5	β^+	2.850 m	0.70		1.3500E+06	1.1700E+06	6
580	Y-84	1.0	β^+	4.600 s	4.35		2.4000E+06	1.2800E+06	6
581	Y-84m	5.0	β^+	40.000 m	2.50		1.2000E+06	3.9700E+06	6
582	Y-85	0.5	β^+	2.681 h	1.87		4.9700E+05	1.2760E+06	6
583	Y-85m	4.5	β^+	4.861 h	2.86		5.7200E+05	1.3540E+06	6
584	Y-86	4.0	β^+	14.739 h	0.15		2.1800E+05	3.5800E+06	6
585	Y-86m	8.0	β^+:0.69;IT:99.31	48.000 m	2.08		2.3100E+04	2.2010E+05	6
586	Y-87	0.5	β^+	3.346 d	0.38		6.7600E+03	4.5800E+05	6
587	Y-87m	4.5	β^+:1.57;IT:98.43	12.889 h	3.23		7.6900E+04	3.0700E+05	6
588	Y-88	4.0	β^+	106.630 d	0.02		6.7692E+03	2.6966E+06	2
589	Y-89	0.5							1
590	Y-89m	4.5	IT	16.050 s	0.25		7.7137E+03	9.0137E+05	2
591	Y-90	2.0	β^-	2.671 d	0.09		9.3035E+05	3.0736E+03	2
592	Y-90m	7.0	IT	3.190 h	0.31		4.8490E+04	6.3365E+05	2
593	Y-91	0.5	β^-	58.700 d	0.17		6.0241E+05	5.0015E+03	2
594	Y-91m	4.5	IT	49.720 m	0.18		2.7991E+04	5.2761E+05	2
595	Y-92	2.0	β^-	3.540 h	0.28		1.4460E+06	2.5252E+05	6
596	Y-93	0.5	β^-	10.100 h	1.98		1.1703E+06	9.2962E+04	6
597	Y-93m	4.5	IT	0.820 s	4.88		8.0198E+04	6.7876E+05	6
598	Y-94	2.0	β^-	19.100 m	2.09		1.7930E+06	9.0000E+05	6
599	Y-95	0.5	β^-	10.300 m	0.97		1.3400E+06	1.0600E+06	6
600	Y-96	0.0	β^-	5.370 s	1.30		3.1793E+06	9.5614E+04	2
601	Y-96m	8.0	β^-	9.620 s	1.56		1.8511E+06	4.4865E+06	2
602	Y-97	0.5	β^-:99.94;β^-,n:0.06	3.700 s	2.70		2.1800E+06	1.6500E+06	6

	ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
	603	Y-97m	4.5	β^-:99.22;β^-,n:0.08	1.210 s	2.48		2.3100E+06	1.7600E+06	6
+	604	Y-98	1.0	β^-:99.67;β^-,n:0.33	0.650 s	7.69	6.5000E+05	2.5400E+06	3.5894E+06	6
+	605	Y-98m	4.0	β^-:96.6;β^-,n:3.4	2.000 s	10.00		2.1743E+06	3.4268E+06	6
+	606	Zr-82	0.0	β^+	32.000 s	15.63		1.3333E+06	1.3333E+06	6
+	607	Zr-83	0.5	β^+	44.000 s	2.27		2.1000E+06	1.1400E+06	6
	608	Zr-84	0.0	β^+	25.833 m	3.23		9.3332E+05	9.3000E+05	6
	609	Zr-85	3.5	β^+	7.860 m	0.51		1.3800E+06	1.5100E+06	6
	610	Zr-85m	0.5	IT	10.900 s	2.75			2.9220E+05	6
	611	Zr-86	0.0	β^+	16.500 h	0.67		3.0300E+04	2.9500E+05	6
	612	Zr-87	4.5	β^+	1.733 h	0.48		7.7000E+05	9.2000E+05	6
	613	Zr-87m	0.5	IT	14.000 s	1.43		9.2000E+04	2.3700E+05	6
	614	Zr-88	0.0	β^+	83.400 d	0.36		1.6093E+04	3.9181E+05	2
	615	Zr-89	4.5	β_g^+:0.13; β_m^+:99.87	3.267 d	0.26		9.2784E+04	2.5388E+05	2
	616	Zr-89m	0.5	β^+:6.66;IT:93.34	4.180 m	0.24		3.2738E+04	6.3804E+05	2
	617	Zr-90	0.0							1
	618	Zr-90m	5.0	IT	0.830 s	0.36			2.3191E+06	6
	619	Zr-91	2.5							1
	620	Zr-92	0.0							1
	621	Zr-93	2.5	β_g^-:2.5; β_m^-:97.5	1.53E+06 y	6.54		1.9131E+04		2
	622	Zr-94	0.0							1
	623	Zr-95	2.5	β_g^-:98.9; β_m^-:1.1	64.030 d	0.05		1.1803E+05	7.3054E+05	2
	624	Zr-96	0.0							1
	625	Zr-97	0.5	β_g^-:5.32; β_m^-:94.68	16.900 h	0.30		7.3000E+05	1.9320E+05	6
	626	Zr-98	?	β^-	30.700 s	1.30		9.1399E+05		6
>	627	Zr-99	0.5	β_m^-:36.8; β_g^-:63.2	2.200 s	4.55		1.5390E+06	8.4141E+05	3
	628	Nb-86	5.0	β^+	1.467 m	1.14		1.9900E+06	3.7000E+06	6
	629	Nb-87	4.5	β^+	2.600 m	3.21		6.0000E+05	1.5000E+06	6
	630	Nb-87m	0.5	β^+	3.817 m	2.62		1.6750E+06	1.2110E+06	6
	631	Nb-88	8.0	β^+	14.500 m	0.69		1.5000E+06	4.2500E+06	6
	632	Nb-88m	4.0	β^+	7.800 m	1.28		1.4800E+06	4.0600E+06	6
	633	Nb-89	4.5	β^+	2.033 h	3.28		1.1160E+06	1.3920E+06	6
	634	Nb-89m	0.5	β^+	1.100 h	3.03		8.1000E+05	1.9300E+06	6
	635	Nb-90	8.0	β^+	14.600 h	0.34		3.5000E+05	4.2100E+06	6
	636	Nb-90m	4.0	IT	18.820 s	0.48		3.9400E+04	8.2400E+04	6
	637	Nb-91	4.5	β^+	680.016 y	19.12		5.8802E+03	1.2566E+04	2
	638	Nb-91m	0.5	IT:97.6;β^+:2.4	60.900 d	0.33		9.3459E+04	3.8033E+04	2
	639	Nb-92	7.0	β^+	3.50E+07 y	8.57		7.9320E+03	1.5033E+06	2
	640	Nb-92m	2.0	β^+	10.150 d	0.20		6.4474E+03	9.7038E+05	2
	641	Nb-93	4.5							1
	642	Nb-93m	0.5	IT	16.126 y	0.85		2.8959E+04	1.9547E+03	2
	643	Nb-94	6.0	β^-	2.00E+04 y	12.33		1.6828E+05	1.5715E+06	2
	644	Nb-94m	3.0	β^-:0.5;IT:99.5	6.260 m	0.16		3.5089E+04	1.2271E+04	2
	645	Nb-95	4.5	β^-	34.975 d	0.02		4.4603E+04	7.6435E+05	2
	646	Nb-95m	0.5	β^-:3.4;IT:96.6	3.608 d	0.92		1.7365E+05	7.1679E+04	2
	647	Nb-96	6.0	β^-	23.350 h	0.21		2.5076E+05	2.4243E+06	6
	648	Nb-97	4.5	β^-	1.202 h	0.97		4.6624E+05	6.6738E+05	6
	649	Nb-97m	0.5	IT	1.000 m	1.67		1.5010E+04	7.2833E+05	6
	650	Nb-98	1.0	β^-	2.800 s	7.14		1.9480E+06	8.4000E+04	6
	651	Nb-98m	5.0	β^-	51.300 m	0.78		7.9000E+05	2.7100E+06	6
	652	Nb-99	4.5	β^-	14.300 s	1.40		1.6040E+06	1.7500E+05	13
	653	Nb-99m	0.5	β^-	2.600 m	7.69		1.4400E+06	7.5300E+05	6
	654	Nb-100	1.0	β^-	1.400 s	7.14		2.4432E+06	7.4436E+05	2
	655	Nb-100m	4.0	β^-	2.900 s	6.90		2.0473E+06	2.0644E+06	2
+	656	Nb-101	?	β^-	7.100 s	4.23		1.6950E+06	6.4900E+05	6
+	657	Nb-102	?	β^-	1.300 s	15.38		1.7860E+06	3.1050E+06	6
+	658	Nb-102m	4.0	β^-	4.300 s	9.30		2.2756E+06	2.0935E+06	16
+	659	Nb-103	2.5	β^-:99.99;β^-,n:0.01	1.500 s	13.33		2.0970E+06	7.6600E+05	6
+	660	Nb-104	4.5	β^-:99.99;β^-,n:0.01	0.800 s	25.00		2.0045E+06	3.1930E+06	6
	661	Mo-88	0.0	β^+	8.000 m	2.50		1.2000E+06	3.0570E+05	6
	662	Mo-89	4.5	β^+	2.033 m	5.74		1.9700E+06	1.1940E+06	9
	663	Mo-90	0.0	β^+	5.669 h	0.88		1.2230E+05	8.1300E+05	6
	664	Mo-91	4.5	β^+	15.490 m	0.06		1.4529E+06	9.7745E+05	6
	665	Mo-91m	0.5	β^+:49.9;IT:50.1	1.087 m	1.23		5.5293E+05	1.3909E+06	6
	666	Mo-92	0.0							1
	667	Mo-93	2.5	β_g^+:15.0; β_m^+:85.0	3011.700 y	18.18		5.6479E+03	1.0941E+04	2
	668	Mo-93m	10.5	β^+:0.12;IT:99.88	6.850 h	1.02		1.0722E+05	2.3175E+06	2
	669	Mo-94	0.0							1
	670	Mo-95	2.5							1
	671	Mo-96	0.0							1
	672	Mo-97	2.5							1
	673	Mo-98	0.0							1

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
674	Mo-99	0.5	β_g^-:11.9; β_m^-:88.1	2.748 d	0.03		3.9236E+05	1.4676E+05	2
675	Mo-100	0.0							1
676	Mo-101	0.5	β^-	14.600 m	0.68		5.2567E+05	1.4733E+06	6
677	Mo-102	0.0	β^-	11.200 m	2.68		3.6060E+05	1.9067E+04	6
678	Mo-103	1.5	β^-	1.132 m	0.88		1.3163E+06	6.3620E+05	2
679	Mo-104	0.0	β^-	1.000 m	3.33		8.8000E+05	1.7600E+05	6
680	Mo-105	1.5	β^-	36.700 s	4.36		9.8083E+05	2.3930E+06	13
+ 681	Tc-90	1.0	β^+	7.900 s	2.53		3.6200E+06	1.1572E+06	6
+ 682	Tc-90m	8.0	β^+	49.200 s	0.00		3.0902E+06	3.0902E+06	8
+ 683	Tc-91	4.5	β^+	3.140 m	0.64		1.6300E+06	2.4600E+06	6
+ 684	Tc-91m	0.5	β^+	3.300 m	3.03		1.9800E+06	1.4800E+06	6
685	Tc-92	8.0	β^+	4.400 m	6.82		1.7600E+06	3.9300E+06	6
686	Tc-93	4.5	β^+	2.750 h	1.82		3.6200E+04	1.3270E+06	6
687	Tc-93m	0.5	β^+:22.2;IT:77.8	43.500 m	2.30		8.3000E+04	7.9600E+05	6
688	Tc-94	7.0	β^+	4.883 h	0.34		4.6200E+04	2.6590E+06	6
689	Tc-94m	2.0	β^+	52.000 m	1.92		7.5500E+05	1.9360E+06	6
690	Tc-95	4.5	β^+	20.000 h	0.56		5.2500E+03	7.9800E+05	6
691	Tc-95m	0.5	β^+:96.0;IT:4.0	60.995 d	3.42		1.4700E+04	7.1900E+05	6
692	Tc-96	7.0	β^+	4.280 d	1.40		8.1682E+03	2.5032E+06	6
693	Tc-96m	4.0	β^+:2.0;IT:98.0	51.500 m	1.94		9.5436E+01	4.5113E+04	7
694	Tc-97	4.5	β^+	2.60E+06 y	15.38		5.6534E+03	1.1679E+04	2
695	Tc-97m	0.5	IT	90.200 d	1.22		8.7044E+04	9.4963E+03	2
696	Tc-98	?	β^-	4.20E+06 y	7.14		1.1900E+05	1.4127E+06	6
697	Tc-99	4.5	β^-	2.11E+05 y	0.52		1.0098E+05	7.0187E-01	2
698	Tc-99m	0.5	β^-:~;IT:100.0	6.010 h	0.17		1.6134E+04	1.2648E+05	2
699	Tc-100	1.0	β^-	15.800 s	0.63		1.3150E+06	8.3000E+04	6
700	Tc-101	4.5	β^-	14.200 m	0.70		4.7696E+05	3.3630E+05	6
701	Tc-102	1.0	β^-	5.280 s	2.84		1.9450E+06	8.0762E+04	6
702	Tc-102m	4.0	β^-:98.0;IT:2.0	4.350 m	1.61		7.7978E+05	2.5247E+06	6
703	Tc-103	2.5	β^-	50.000 s	8.00		8.4756E+05	2.6351E+05	6
704	Tc-104	3.0	β^-	18.400 m	1.63		1.8100E+06	2.2400E+06	13
705	Tc-105	0.0	β^-	7.600 m	2.63		1.2437E+06	4.9147E+05	6
706	Tc-106	0.0	β^-	36.000 s	2.78		2.0879E+06	2.1046E+06	6
+ 707	Tc-107	0.0	β^-	21.000 s	4.76		1.5838E+06	5.9752E+05	6
+ 708	Tc-108	3.0	β^-	5.170 s	1.35		2.2600E+06	1.4900E+06	6
+ 709	Tc-109	?	β^-:99.99;β^-,n:0.01	1.400 s	28.57		2.2530E+06	7.0800E+05	6
+ 710	Ru-92	0.0	β^+	3.650 m	1.37		6.1200E+05	2.1237E+06	6
+ 711	Ru-93	4.5	β^+	59.700 s	1.01		2.3500E+06	1.1670E+06	6
+ 712	Ru-93m	0.5	β^+:77.8;IT:22.2	10.800 s	2.78		1.5500E+06	1.9900E+06	6
713	Ru-94	0.0	β^+	51.833 m	1.29		5.0000E+03	5.2000E+05	6
714	Ru-95	2.5	β^+	1.639 h	0.68		7.6000E+04	1.2430E+06	6
715	Ru-96	0.0							1
716	Ru-97	2.5	β_g^+:99.96; β_m^+:0.04	2.900 d	3.45		1.1994E+04	2.4375E+05	6
717	Ru-98	0.0							1
718	Ru-99	2.5							1
719	Ru-100	0.0							1
720	Ru-101	2.5							1
721	Ru-102	0.0							1
722	Ru-103	1.5	β_g^-:1.15; β_m^-:98.85	39.260 d	0.05		6.6450E+04	4.9768E+05	2
723	Ru-104	0.0							1
724	Ru-105	1.5	β_g^-:72.0; β_m^-:28.0	4.439 h	0.50		4.4000E+05	7.1170E+05	6
725	Ru-106	0.0	β^-	1.008 y	0.33		1.0036E+04		6
726	Ru-107	2.5	β^-	3.750 m	1.33		1.0800E+06	3.4500E+05	6
727	Ru-108	0.0	β^-	4.500 m	4.44		4.6688E+05	4.6186E+04	6
728	Ru-109	2.5	β^-	34.500 s	1.45		1.0400E+06	2.1000E+06	6
729	Ru-110	?	β^-	12.600 s	3.97		8.9800E+05	4.6500E+05	6
730	Ru-111	?	β^-	2.200 s	45.45		2.0000E+06	7.3000E+05	6
+ 731	Rh-95	4.5	β^+	5.017 m	1.99		8.9000E+05	2.4700E+06	6
+ 732	Rh-95m	0.5	β^+:12.0;IT:88.0	1.960 m	2.04		1.9000E+05	8.9000E+05	6
733	Rh-96	5.0	β^+	9.900 m	1.01		8.5000E+05	3.9900E+06	6
734	Rh-96m	2.0	β^+:40.0;IT:60.0	1.510 m	1.32		6.0000E+05	1.2200E+06	6
735	Rh-97	4.5	β^+	31.167 m	2.67		5.1000E+05	1.4300E+06	6
736	Rh-97m	0.5	β^+:95.1;IT:4.9	44.333 m	1.88		2.0600E+05	2.2500E+06	6
737	Rh-98	2.0	β^+	8.700 m	2.30		1.3080E+06	1.7380E+06	6
738	Rh-98m	5.0	β^+	3.500 m	8.57		9.9000E+05	2.3400E+06	6
739	Rh-99	0.5	β^+	16.100 d	1.29		5.8000E+04	5.0200E+05	6
740	Rh-99m	4.5	β^+	4.694 h	2.37		3.5200E+04	6.4200E+05	6
741	Rh-100	1.0	β^+	20.806 h	0.53		5.9900E+04	2.7800E+06	6
742	Rh-100m	5.0	β^+:1.7;IT:98.3	4.600 m	4.35		2.9000E+03	4.6300E+04	6
743	Rh-101	0.5	β^+	3.296 y	9.62		2.6400E+04	3.0000E+05	6
744	Rh-101m	4.5	β^+:92.3;IT:7.7	4.340 d	0.24		1.9800E+04	3.0400E+05	6

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
745	Rh-102	6.0	β^+	2.902 y	1.42		1.2156E+04	2.1221E+06	2
746	Rh-102m	2.0	β^-:20.0;β^+:75.0	208.000 d	1.92		1.7360E+05	4.9317E+05	2
747	Rh-103	0.5							1
748	Rh-103m	3.5	IT	56.115 m	0.02		3.8209E+04	1.7008E+03	2
749	Rh-104	1.0	β^-:99.55;β^+:0.45	42.300 s	0.95		9.8050E+05	1.5022E+04	2
750	Rh-104m	5.0	β^-:0.13;IT:99.87	4.340 m	0.69		8.6203E+04	4.5522E+04	2
751	Rh-105	3.5	β^-	1.474 d	0.14		1.5321E+05	7.8039E+04	2
752	Rh-105m	0.5	IT	40.000 s	25.00		9.5242E+04	3.4598E+04	2
753	Rh-106	1.0	β^-	30.100 s	0.33		1.4013E+06	2.1809E+05	2
754	Rh-106m	6.0	β^-	2.200 h	2.27		3.2163E+05	2.7592E+06	2
755	Rh-107	3.5	β^-	21.700 m	1.84		4.3207E+05	3.1301E+05	6
756	Rh-108	5.0	β^-	5.900 m	3.39		9.1403E+05	2.2653E+06	6
757	Rh-108m	1.0	β^-	16.800 s	2.98		1.8030E+06	5.2910E+05	6
758	Rh-109	2.5	β^-	1.333 m	2.50		8.7689E+05	3.2455E+05	6
> 759	Rh-110	4.0	β^-	28.500 s	5.26		1.1821E+06	2.5536E+06	3
> 760	Rh-110m	1.0	β^-	3.200 s	6.25		2.2662E+06	3.3596E+05	3
761	Rh-111	?	β^-	11.000 s	9.09		1.4850E+06	2.0800E+05	6
762	Rh-112	?	β^-	3.800 s	2.63		1.9300E+06	2.6800E+06	6
+ 763	Rh-112m	5.0	β^-	6.800 s	2.94		1.9086E+06	2.2610E+06	16
+ 764	Rh-113	?	β^-	2.720 s	0.00		1.8129E+06	5.2700E+05	6
+ 765	Rh-114	1.0	β^-	1.850 s	2.70		2.7000E+06	4.7308E+05	6
+ 766	Rh-114m	4.0	β^-	1.850 s	2.70		2.0300E+06	2.5157E+06	6
+ 767	Pd-96	0.0	β_g^+:50.0; β_m^+:50.0	2.033 m	0.00		1.1413E+06	1.1413E+06	8
+ 768	Pd-97	2.5	β^+	3.100 m	3.23		7.6000E+05	2.4500E+06	6
769	Pd-98	0.0	β^+	17.700 m	1.69		4.0000E+04	4.7000E+05	6
770	Pd-99	2.5	β^+	21.400 m	0.93		4.2400E+05	1.2600E+06	6
771	Pd-100	0.0	β^+	3.634 d	2.55		4.1200E+04	1.0462E+05	6
772	Pd-101	2.5	β^+	8.469 h	0.72		3.0900E+04	3.5400E+05	6
773	Pd-102	0.0							1
774	Pd-103	2.5	β_g^+:0.03; β_m^+:99.97	16.980 d	0.12		5.8831E+03	1.4678E+04	2
775	Pd-104	0.0							1
776	Pd-105	2.5							1
777	Pd-106	0.0							1
778	Pd-107	2.5	β^-	6.50E+06 y	4.62		9.4045E+03		2
779	Pd-107m	5.5	IT	21.300 s	2.35		6.2990E+04	1.5184E+05	2
780	Pd-108	0.0							1
781	Pd-109	2.5	β_g^-:0.05; β_m^-:99.95	13.460 h	0.07		3.5982E+05	1.0507E+03	2
782	Pd-109m	5.5	IT	4.710 m	0.64		7.7489E+04	1.1143E+05	2
783	Pd-110	0.0							1
784	Pd-111	2.5	β_g^-:0.75; β_m^-:99.25	23.400 m	0.85		8.3272E+05	4.4865E+04	6
785	Pd-111m	5.5	β_g^-:7.5; β_m^-:19.5	5.500 h	1.82		1.7330E+05	3.8293E+05	6
786	Pd-112	0.0	β^-	20.300 h	0.99		8.9897E+04	5.2483E+03	2
787	Pd-113	2.5	β_g^-:81.5; β_m^-:18.5	1.550 m	5.38		1.3900E+06	6.8710E+04	6
788	Pd-113m	5.5	IT	1.667 m	50.00			1.0000E+03	13
789	Pd-114	0.0	β^-	2.450 m	4.08		5.3137E+05	2.7332E+04	6
> 790	Pd-115	2.5	β_g^-:73.0; β_m^-:27.0	25.000 s	12.00		1.3600E+06	1.4400E+06	16
+ 791	Pd-115m	5.5	β_m^-:92.0; IT_g:8.0	50.000 s	0.00		1.4205E+06	1.4276E+06	16
+ 792	Pd-116	0.0	β^-	12.400 s	4.03		9.9000E+05	1.7480E+05	6
+ 793	Pd-117	?	β_g^-:50.0; β_m^-:50.0	5.000 s	24.00		1.1190E+06	2.9130E+06	6
+ 794	Pd-118	?	β_g^-:50.0; β_m^-:50.0	3.100 s	9.68		1.4830E+06	6.8700E+05	6
795	Ag-100	5.0	β^+	2.017 m	4.96		1.4600E+06	3.4100E+06	6
796	Ag-100m	2.0	β^+	2.233 m	5.97		1.5000E+06	2.5800E+06	6
797	Ag-101	4.5	β^+	11.100 m	2.70		7.7000E+05	1.5400E+06	6
798	Ag-101m	0.5	IT	3.100 s	3.23		2.7500E+04	1.4920E+05	6
799	Ag-102	5.0	β^+	12.900 m	2.33		9.6000E+05	3.4100E+06	6
800	Ag-102m	2.0	β^+:51.0;IT:49.0	7.667 m	6.52		4.7000E+05	1.9900E+06	6
801	Ag-103	3.5	β^+	1.094 h	1.27		1.7700E+05	8.4000E+05	6
802	Ag-103m	0.5	IT	5.700 s	5.26		9.5000E+04	3.7700E+04	6
803	Ag-104	5.0	β^+	1.153 h	1.45		9.0000E+04	2.7100E+06	6
804	Ag-104m	2.0	β^+:67.0;IT:33.0	33.500 m	5.97		5.1000E+05	1.2400E+06	6
805	Ag-105	0.5	β^+	41.300 d	0.24		1.9926E+04	5.3041E+05	2
806	Ag-105m	3.5	β^+:0.34;IT:99.66	7.230 m	2.21		2.5339E+04	1.2209E+03	2
807	Ag-106	1.0	β^-:0.5;β^+:99.5	24.000 m	0.42		5.0352E+05	7.0598E+05	2
808	Ag-106m	6.0	β^+	8.460 d	1.18		1.2274E+04	2.7544E+06	2
809	Ag-107	0.5							1
810	Ag-107m	3.5	IT	44.100 s	0.91		8.0670E+04	1.2509E+04	2
811	Ag-108	1.0	β^-:97.1;β^+:2.9	2.400 m	0.83		6.0553E+05	2.2825E+04	2
812	Ag-108m	6.0	β^+:91.3;IT:8.7	418.010 y	3.59		1.6041E+04	1.6301E+06	2
813	Ag-109	0.5							1
814	Ag-109m	3.5	IT	39.800 s	0.50		7.7100E+04	1.1099E+04	2
815	Ag-110	1.0	β^-:99.7;β^+:0.3	24.700 s	0.81		1.1749E+06	3.4774E+04	2

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816	Ag-110m	6.0	β^-:98.73;IT:1.27	249.791 d	0.07		6.9019E+04	2.7606E+06	2
817	Ag-111	0.5	β^-	7.450 d	0.13		3.5329E+05	2.6340E+04	2
818	Ag-111m	3.5	β^-:0.5;IT:99.5	1.080 m	1.23		5.6008E+04	6.8782E+03	2
819	Ag-112	2.0	β^-	3.140 h	0.64		1.4204E+06	6.9052E+05	6
820	Ag-113	0.5	β_g^-:98.3; β_m^-:1.7	5.370 h	0.93		7.6136E+05	7.1941E+04	6
821	Ag-113m	3.5	β^-:20.0;IT:80.0	1.145 m	7.28		1.4051E+05	1.2216E+05	6
822	Ag-114	1.0	β^-	4.700 s	2.13		2.0965E+06	2.7179E+05	2
823	Ag-114m	4.0	IT	0.002 s	3.33		1.0188E+05	9.7116E+04	2
824	Ag-115	0.5	β_g^-:88.0; β_m^-:12.0	20.500 m	1.95		7.7923E+05	1.1323E+06	2
825	Ag-115m	3.5	β_g^-:76.7; β_m^-:2.3	18.600 s	4.30		8.4406E+05	4.5499E+05	2
826	Ag-116	1.0	β^-	2.640 m	1.89		1.5907E+06	2.1073E+06	6
827	Ag-116m	5.0	β^-:98.0;IT:2.0	10.500 s	4.76		1.8650E+06	1.3062E+06	6
+ 828	Ag-117	0.5	β_g^-:86.0; β_m^-:14.0	1.213 m	2.84		1.3067E+06	1.0924E+06	6
+ 829	Ag-117m	3.5	β_g^-:21.5; β_m^-:78.5	5.340 s	0.94		1.5034E+06	6.4452E+05	6
+ 830	Ag-118	0.0	β^-	3.700 s	0.00		2.5080E+06	8.9272E+05	6
+ 831	Ag-118m	4.0	β^-:59.0;IT:41.0	2.000 s	10.00		1.2500E+06	1.5000E+06	16
+ 832	Ag-119	3.5	β_g^-:78.99; β_m^-:21.0	2.100 s	4.76		1.7706E+06	1.3367E+06	6
+ 833	Ag-119m	0.5	β_g^-:50.0; β_m^-:50.0	6.000 s	0.00		1.7589E+06	1.7589E+06	16
+ 834	Ag-120	3.0	β^-:100.0;β^-,n:~	1.170 s	4.27		2.2838E+06	1.0766E+06	6
+ 835	Ag-121	?	β^-:99.92;β^-,n:0.08	0.800 s	12.50		2.4600E+06	8.4400E+05	6
+ 836	Ag-122	3.0	β^-:99.81;β^-,n:0.19	0.480 s	16.67		3.6000E+06	1.1200E+06	6
837	Cd-102	0.0	β^+	5.500 m	9.09		1.7400E+05	7.8043E+05	6
838	Cd-103	2.5	β^+	7.300 m	1.37		3.4000E+05	2.0800E+06	6
839	Cd-104	0.0	β^+	57.667 m	1.73		2.9000E+04	1.8638E+05	6
840	Cd-105	2.5	β^+	55.500 m	0.72		2.1500E+05	1.2600E+06	6
841	Cd-106	0.0							1
842	Cd-107	2.5	β_g^+:0.06; β_m^+:99.94	6.520 h	0.31		6.2740E+03	2.1241E+04	2
843	Cd-108	0.0							1
844	Cd-109	2.5	β_m^+	1.267 y	0.15		5.7124E+03	1.5146E+04	2
845	Cd-110	0.0							1
846	Cd-111	0.5							1
847	Cd-111m	5.5	IT	48.540 m	0.10		1.0488E+05	2.9167E+05	2
848	Cd-112	0.0							1
849	Cd-113	0.5	β^-	9.30E+15 y	20.43		1.3616E+05		2
850	Cd-113m	5.5	β^-:99.88;IT:0.12	13.700 y	2.19		1.8320E+05	7.1409E+01	2
851	Cd-114	0.0							1
852	Cd-115	0.5	β_g^-:~; β_m^-:100.0	2.225 d	0.07		3.1716E+05	1.9334E+05	2
853	Cd-115m	5.5	β_g^-:99.99; β_m^-:~	44.600 d	0.67		6.0187E+05	3.4264E+04	2
854	Cd-116	0.0							1
855	Cd-117	0.5	β_g^-:8.4; β_m^-:91.6	2.490 h	1.61		4.3080E+05	1.0883E+06	6
856	Cd-117m	5.5	β_g^-:98.6; β_m^-:1.4	3.360 h	1.49		2.0570E+05	2.0385E+06	6
857	Cd-118	?	β^-	50.300 m	0.40		2.4662E+05		6
858	Cd-119	0.5	β_g^-:6.8; β_m^-:93.2	2.690 m	0.74		6.7490E+05	1.6745E+06	6
859	Cd-119m	5.5	β_g^-:98.6; β_m^-:1.4	2.200 m	0.91		5.7609E+05	2.3547E+06	6
860	Cd-120	0.0	β^-	50.800 s	0.41		6.5608E+05	1.7292E+03	6
861	Cd-121	1.5	β_g^-:34.0; β_m^-:66.0	12.500 s	12.00		1.3194E+06	1.7472E+06	6
862	Cd-121m	4.5	β^-	4.800 s	16.67		1.1275E+06	2.2401E+06	6
863	Cd-122	?	β^-	5.780 s	1.56		1.0511E+06	7.1000E+05	6
864	Cd-123	1.5	β_g^-:77.0; β_m^-:23.0	2.200 s	0.91		1.2710E+06	2.8490E+06	13
+ 865	Cd-123m	5.5	β_g^-:98.78; β_m^-:1.22	1.820 s	1.65		1.6090E+06	2.3306E+06	16
866	Cd-124	?	β^-	1.000 s	20.00		2.0474E+06	1.1978E+05	6
867	Cd-125	1.5	β_g^-:70.0; β_m^-:30.0	0.700 s	2.86		1.7430E+06	3.1070E+06	13
868	In-106	7.0	β^+	6.200 m	1.61		9.2000E+05	3.5600E+06	6
869	In-106m	3.0	β^+	5.200 m	1.92		1.5500E+06	2.9500E+06	6
870	In-107	4.5	β^+	32.400 m	0.93		3.3000E+05	1.5200E+06	6
871	In-107m	0.5	IT	50.400 s	1.19		3.7300E+04	6.4080E+05	6
872	In-108	6.0	β^+	58.000 m	2.30		1.6700E+05	3.2300E+06	6
873	In-108m	3.0	β^+	39.667 m	2.10		7.0900E+05	2.7600E+06	6
874	In-109	4.5	β^+	4.194 h	2.65		4.7500E+04	6.7100E+05	6
875	In-109m	0.5	IT	1.333 m	6.25		3.7000E+04	6.1030E+05	6
876	In-109n	9.5	IT	0.210 s	4.76			2.1100E+06	7
877	In-110	7.0	β^+	4.889 h	2.27		9.8000E+03	3.1000E+06	6
878	In-110m	2.0	β^+	1.153 h	0.72		6.3000E+05	1.5600E+06	6
879	In-111	4.5	β_g^+:99.99; β_m^+:~	2.805 d	0.02		3.3492E+04	4.0647E+05	2
880	In-111m	0.5	IT	7.900 m	5.06		6.7837E+04	4.6964E+05	2
881	In-112	1.0	β^-:44.0;β^+:56.0	14.700 m	4.76		2.4521E+05	2.9019E+05	2
882	In-112m	4.0	IT	20.700 m	0.48		1.2220E+05	3.4564E+04	2
883	In-113	4.5							1
884	In-113m	0.5	IT	1.658 h	0.06		1.3133E+05	2.6035E+05	2
885	In-114	1.0	β^-:99.5;β^+:0.5	1.198 m	0.14		7.6923E+05	4.3697E+03	2
886	In-114m	5.0	β^+:3.5;IT:96.5	50.000 d	0.40		1.4090E+05	8.8989E+04	2

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
887	In-115	4.5	β^-	4.41E+14 y	5.67		2.0788E+05		2
888	In-115m	0.5	β^-:5.05;IT:94.95	4.486 h	0.07		1.7099E+05	1.6250E+05	2
889	In-116	1.0	β^-	14.200 s	2.11		1.3567E+06	5.2650E+03	2
890	In-116m	5.0	β^-	54.600 m	0.55		3.1260E+05	2.4908E+06	2
891	In-116n	8.0	IT_m	2.170 s	2.30		9.4116E+04	6.8171E+04	2
892	In-117	4.5	β_g^-:99.68; β_m^-:0.32	43.800 m	1.60		2.6400E+05	6.9200E+05	6
893	In-117m	0.5	β^-:52.9;IT:47.1	1.942 h	0.60		4.3355E+05	9.0905E+04	6
894	In-118	1.0	β^-	5.000 s	6.00		1.7072E+06	3.4711E+05	6
895	In-118m	5.0	β^-	4.450 m	1.12		5.6857E+05	2.7215E+06	6
896	In-118n	8.0	β_g^-:1.5;IT_m:98.5	8.500 s	3.53		1.1059E+05	7.5137E+04	6
897	In-119	4.5	β_g^-:99.07; β_m^-:0.93	2.400 m	4.17		6.1137E+05	7.6634E+05	6
898	In-119m	0.5	β^-:97.5;IT:2.5	18.000 m	1.67		1.0496E+06	1.0958E+04	13
899	In-120	1.0	β^-	3.080 s	2.60		2.3716E+06	3.3142E+05	6
900	In-120m	5.0	β^-	44.400 s	2.25		9.3323E+05	2.9764E+06	6
901	In-120n	8.0	β^-	46.200 s	1.73		1.3000E+06	2.8400E+06	7
902	In-121	4.5	β_g^-:88.0; β_m^-:12.0	23.100 s	2.60		9.7867E+05	9.2996E+05	6
903	In-121m	0.5	β^-:98.8;IT:1.2	3.880 m	2.58		1.5171E+06	6.9157E+04	6
904	In-122	1.0	β^-	1.500 s	20.00		2.5300E+06	6.4000E+05	6
905	In-122m	4.0	β^-	10.000 s	5.00		1.5293E+06	3.0327E+06	6
906	In-122n	8.0	β^-	10.800 s	3.70		1.3000E+06	3.4000E+06	6
907	In-123	4.5	β_g^-:3.5; β_m^-:96.5	5.970 s	1.01		1.3519E+06	1.1064E+06	13
908	In-123m	0.5	β_m^-	47.800 s	1.05		2.0164E+06	6.5494E+04	6
909	In-124	3.0	β^-	3.200 s	9.38		2.1247E+06	2.6981E+06	6
910	In-124m	8.0	β^-	2.400 s	8.33		1.6813E+06	3.8073E+06	6
911	In-125	4.5	β_g^-:88.0; β_m^-:12.0	2.330 s	1.72		1.7520E+06	1.3005E+06	6
912	In-125m	0.5	β_m^-	12.200 s	0.82		2.4193E+06	1.6809E+05	6
913	In-126	3.0	β^-	1.500 s	13.33		2.4331E+06	2.8119E+06	6
914	In-126m	6.0	β^-	1.450 s	15.17		1.8814E+06	4.3144E+06	7
+ 915	In-127	4.5	β_g^-:15.4; β_m^-:84.57	1.150 s	4.35		2.2075E+06	1.7664E+06	6
+ 916	In-127m	0.5	β_m^-:49.81; β_g^-:49.5	3.700 s	2.70	1.1000E+05	2.7420E+06	5.0120E+05	6
+ 917	In-128	3.0	β^-:99.96;β^-,n:0.04	0.900 s	11.11		2.7786E+06	3.0721E+06	6
+ 918	Sn-107	?	β^+	2.900 m	1.72		1.7000E+06	1.7000E+06	6
919	Sn-108	0.0	β^+	10.300 m	0.81		2.6000E+04	6.7300E+05	6
920	Sn-109	3.5	β^+	18.000 m	1.11		1.1000E+05	2.3000E+06	6
921	Sn-110	0.0	β_m^+	4.100 h	2.44		1.4169E+04	2.9043E+05	2
922	Sn-111	3.5	β^+	35.300 m	2.27		2.0075E+05	5.0128E+05	6
923	Sn-112	0.0							1
924	Sn-113	0.5	β_g^+:0.01; β_m^+:99.99	115.090 d	0.03		6.2722E+03	2.3254E+04	2
925	Sn-113m	3.5	β^+:8.9;IT:91.1	20.900 m	2.39		5.8576E+04	1.4483E+04	2
926	Sn-114	0.0							1
927	Sn-115	0.5							1
928	Sn-116	0.0							1
929	Sn-117	0.5							1
930	Sn-117m	5.5	IT	13.600 d	0.29		1.5824E+05	1.5634E+05	2
931	Sn-118	0.0							1
932	Sn-119	0.5							1
933	Sn-119m	5.5	IT	293.000 d	0.44		7.8261E+04	1.1361E+04	2
934	Sn-120	0.0							1
935	Sn-121	1.5	β^-	1.121 d	0.37		1.1518E+05		2
936	Sn-121m	5.5	β^-:22.4;IT:77.6	55.001 y	9.09		3.5326E+04	5.0957E+03	2
937	Sn-122	0.0							1
938	Sn-123	5.5	β^-	129.200 d	0.31		5.1990E+05	7.9953E+03	2
939	Sn-123m	1.5	β^-	40.100 m	2.00		4.7546E+05	1.4120E+05	2
940	Sn-124	0.0							1
941	Sn-125	5.5	β^-	9.640 d	0.31		8.0501E+05	3.1610E+05	2
942	Sn-125m	1.5	β^-	9.520 m	0.53		7.9681E+05	3.4703E+05	2
943	Sn-126	0.0	β_m^-:33.2;β_n^-:66.8	2.42E+05 y	5.79		1.0899E+05	5.6236E+04	2
944	Sn-127	5.5	β^-	2.100 h	1.90		4.9003E+05	1.8572E+06	6
945	Sn-127m	1.5	β^-	4.130 m	0.73		1.0008E+06	5.6840E+05	6
946	Sn-128	0.0	β_m^-	59.100 m	0.85		2.5150E+05	5.9946E+05	6
947	Sn-128m	7.0	IT	6.500 s	7.69		7.8000E+04	2.0116E+06	6
948	Sn-129	1.5	β^-	2.400 m	4.17		6.7000E+05	2.4800E+06	13
949	Sn-129m	5.5	β^-:100.0;IT:~	6.900 m	1.45		6.0861E+05	2.4272E+06	13
950	Sn-130	0.0	β_m^-	3.720 m	2.96		8.2000E+05	1.6000E+05	6
951	Sn-130m	7.0	β^-	1.700 m	5.88		4.6000E+05	2.3520E+06	6
952	Sn-131	1.5	β^-	39.000 s	5.13		8.8000E+05	2.3600E+06	6
953	Sn-131m	5.5	β^-	1.020 m	4.90		1.0980E+06	2.3910E+06	13
954	Sb-112	3.0	β^+	51.400 s	1.95		1.7540E+06	2.8200E+06	6
955	Sb-113	2.5	β^+	6.667 m	1.25		7.3000E+05	1.2900E+06	6
956	Sb-114	3.0	β^+	3.490 m	0.86		1.1990E+06	2.7350E+06	6
957	Sb-115	2.5	β^+	32.100 m	0.93		2.3100E+05	8.8600E+05	6

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
958	Sb-116	3.0	β^+	15.833 m	5.26		4.7000E+05	2.2300E+06	6
959	Sb-116m	8.0	β^+	1.006 h	1.10		1.8500E+05	3.2100E+06	6
960	Sb-117	2.5	β^+	2.800 h	0.40		2.8100E+04	1.8500E+05	6
961	Sb-118	1.0	β^+	3.600 m	2.78		8.7300E+05	8.0300E+05	6
962	Sb-118m	8.0	β^+	5.000 h	0.22		3.1000E+04	2.5800E+06	6
963	Sb-119	2.5	β^+	1.596 d	0.52		2.5972E+04	2.3418E+04	2
964	Sb-120	1.0	β^+	15.900 m	0.63		3.0676E+05	4.6003E+05	2
965	Sb-120m	8.0	β^+	5.760 d	0.52		4.5054E+04	2.4623E+06	2
966	Sb-121	2.5							1
967	Sb-122	2.0	β^-:97.63;β^+:2.37	2.696 d	0.31		5.6467E+05	4.3788E+05	2
968	Sb-122m	8.0	IT	4.190 m	2.15		9.3057E+04	7.0525E+04	2
969	Sb-123	3.5							1
970	Sb-124	3.0	β^-	60.240 d	0.15		3.8174E+05	1.8633E+06	2
971	Sb-124m	5.0	β^-:25.0;IT:75.0	1.550 m	5.38		1.1407E+05	4.3754E+05	2
972	Sb-124n	8.0	IT_m	20.200 m	0.99		2.5771E+04	3.3800E+02	2
973	Sb-125	3.5	β_g^-:76.4; β_m^-:23.6	2.759 y	0.06		1.0109E+05	4.3025E+05	2
974	Sb-126	8.0	β^-	12.410 d	0.40		3.3268E+05	2.7525E+06	2
975	Sb-126m	5.0	IT:14.0;β^-:86.0	19.100 m	1.05		6.2477E+05	1.5760E+06	2
976	Sb-126n	3.0	IT_m	11.000 s	18.18		2.2436E+04	3.7851E+02	2
977	Sb-127	3.5	β_g^-:83.2; β_m^-:16.8	3.840 d	0.78		3.1467E+05	6.5838E+05	2
978	Sb-128	8.0	β^-	9.010 h	0.33		4.2081E+05	3.0921E+06	6
979	Sb-128m	5.0	β^-:96.4;IT:3.6	10.400 m	1.92		9.2119E+05	1.9996E+06	6
980	Sb-129	3.5	β_g^-:83.4; β_m^-:16.6	4.360 h	0.69		3.5483E+05	1.3801E+06	2
981	Sb-129m	9.5	β_g^-:2.0; β_m^-:83.0	17.700 m	0.56		9.9886E+05	1.4780E+06	2
982	Sb-130	8.0	β^-	40.000 m	2.50		6.9339E+05	3.2637E+06	6
983	Sb-130m	4.0	β^-	6.300 m	3.17		9.9738E+05	2.4907E+06	6
984	Sb-131	3.5	β_g^-:93.2; β_m^-:6.8	23.000 m	8.70		8.3000E+05	1.6950E+06	6
985	Sb-132	8.0	β^-	4.200 m	2.38		1.3418E+06	2.3630E+06	6
986	Sb-132m	4.0	β^-	2.800 m	3.57		1.2610E+06	2.5281E+06	6
+ 987	Sb-133	3.5	β_g^-:71.0; β_m^-:29.0	2.470 m	4.05		4.4000E+05	2.4030E+06	6
+ 988	Te-113	3.5	β^+	1.700 m	11.76		1.4600E+06	2.3234E+06	6
989	Te-114	0.0	β^+	15.167 m	5.49		9.7332E+05	9.7332E+05	6
990	Te-115	3.5	β^+	5.800 m	3.45		5.6100E+05	2.0700E+06	6
991	Te-115m	0.5	β^+	6.700 m	5.97		5.0300E+05	2.4900E+06	6
992	Te-116	0.0	β^+	2.489 h	1.67		5.6000E+04	8.2000E+04	6
993	Te-117	0.5	β^+	1.033 h	3.23		1.9800E+05	1.5400E+06	6
994	Te-117m	5.5	IT	0.103 s	2.91		2.9200E+04	2.6439E+05	6
995	Te-118	0.0	β^+	6.000 d	0.35		4.9600E+03	1.9900E+04	6
996	Te-119	0.5	β^+	16.050 h	0.31		1.2900E+04	7.7100E+05	6
997	Te-119m	5.5	β^+	4.688 d	0.99		1.6100E+04	1.5160E+06	6
998	Te-120	0.0							1
999	Te-121	0.5	β^+	19.160 d	0.26		9.8405E+03	5.7747E+05	2
1000	Te-121m	5.5	β^+:11.3;IT:88.7	154.000 d	4.55		8.0090E+04	2.1695E+05	2
1001	Te-122	0.0							1
1002	Te-123	0.5	β^+	9.99E+12 y	60.25		2.0026E+03	2.6184E+02	13
1003	Te-123m	5.5	IT	119.699 d	0.08		1.0065E+05	1.4827E+05	6
1004	Te-124	0.0							1
1005	Te-125	0.5							1
1006	Te-125m	5.5	IT	58.000 d	1.72		1.0878E+05	3.6000E+04	2
1007	Te-126	0.0							1
1008	Te-127	1.5	β^-	9.350 h	0.64		2.2440E+05	4.8472E+03	2
1009	Te-127m	5.5	IT:97.6;β^-:2.4	109.000 d	1.83		8.2138E+04	1.1580E+04	2
1010	Te-128	0.0							1
1011	Te-129	1.5	β^-	1.160 h	0.57		5.4303E+05	6.0453E+04	2
1012	Te-129m	5.5	β^-:31.0;IT:69.0	33.800 d	0.30		2.4018E+05	3.8939E+04	2
1013	Te-130	0.0							1
1014	Te-131	5.5	β^-	25.000 m	0.40		7.1624E+05	4.2202E+05	6
1015	Te-131m	5.5	β^-:77.8;IT:22.2	1.250 d	6.67		1.9427E+05	1.4281E+06	6
1016	Te-132	0.0	β^-	3.230 d	0.93		1.0313E+05	2.3369E+05	2
1017	Te-133	1.5	β^-	12.500 m	2.40		7.2000E+05	1.2000E+06	6
1018	Te-133m	5.5	β^-:82.5;IT:17.5	55.400 m	0.72		5.3000E+05	1.9200E+06	6
1019	Te-134	0.0	β_g^-:89.8; β_m^-:10.2	41.833 m	1.99		2.3000E+05	8.5800E+05	6
1020	Te-135	3.5	β^-	19.000 s	1.05		2.3400E+06	4.8000E+05	6
+1021	I-116	1.0	β^+	2.910 s	5.15		3.0200E+06	1.0552E+06	6
+1022	I-117	2.5	β^+	2.300 m	4.35		6.0000E+05	1.0000E+06	6
1023	I-118	2.0	β^+	13.667 m	3.66		1.6700E+06	2.0000E+06	6
1024	I-118m	7.0	β^+	8.500 m	5.88		6.7000E+05	3.5700E+06	7
1025	I-119	2.5	β^+	19.100 m	2.09		5.0000E+05	8.6000E+05	6
1026	I-120	2.0	β^+	1.350 h	0.82		1.3000E+06	2.7000E+06	6
1027	I-120m	4.0	β^+	53.000 m	7.55		8.9900E+05	5.1100E+06	7
1028	I-121	2.5	β^+	2.119 h	0.52		8.5000E+04	4.3000E+05	6

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
1029	I-122	1.0	β^+	3.633 m	1.83		1.1100E+06	9.6100E+05	6
1030	I-123	2.5	β^+	13.194 h	0.84		2.6600E+04	1.7280E+05	6
1031	I-124	2.0	β^+	4.181 d	0.50		1.9600E+05	1.0850E+06	6
1032	I-125	2.5	β^+	59.430 d	0.10		1.9219E+04	4.2440E+04	2
1033	I-126	2.0	β^-:43.7;β^+:56.3	12.980 d	0.39		1.4382E+05	4.3563E+05	2
1034	I-127	2.5							1
1035	I-128	1.0	β^-:93.9;β^+:6.1	24.990 m	0.08		7.4332E+05	8.7457E+04	6
1036	I-129	3.5	β^-	1.57E+07 y	2.55		5.5112E+04	2.3048E+04	6
1037	I-130	5.0	β^-	12.360 h	0.08		2.8829E+05	2.1381E+06	6
1038	I-130m	2.0	β^-:16.7;IT:83.3	9.000 m	1.11		1.9023E+05	1.1903E+05	6
1039	I-131	3.5	β_g^-:98.91; β_m^-:1.09	8.040 d	0.12		1.9141E+05	3.8154E+05	6
1040	I-132	4.0	β^-	2.283 h	0.35		4.8982E+05	2.2557E+06	2
1041	I-132m	8.0	IT:86.0;β^-:14.0	1.383 h	1.20		1.6274E+05	3.4482E+05	2
1042	I-133	3.5	β_g^-:97.12; β_m^-:2.88	20.800 h	0.48		4.0884E+05	6.0781E+05	6
1043	I-133m	9.5	IT	9.000 s	22.22		4.9083E+04	1.5824E+06	13
1044	I-134	4.0	β^-	52.600 m	0.76		6.2000E+05	2.6100E+06	6
1045	I-134m	8.0	β_m^-:2.0; IT_g:98.0	3.700 m	2.70		8.7245E+04	2.4218E+05	6
1046	I-135	3.5	β_g^-:84.5; β_m^-:15.5	6.610 h	0.15		3.6500E+05	1.5930E+06	6
1047	I-136	2.0	β^-	1.400 m	1.19		1.9600E+06	2.3940E+06	6
1048	I-136m	6.0	β^-	45.000 s	2.22		2.2100E+06	2.5100E+06	6
+1049	I-137	3.5	β^-:92.86;β^-,n:7.14	24.500 s	0.41	6.7000E+05	2.0300E+06	1.2300E+06	6
+1050	Xe-117	2.5	β^+	1.017 m	0.00		1.2900E+04	2.9500E+05	6
+1051	Xe-118	0.0	β^+	6.000 m	16.67		1.0667E+06	5.7000E+05	6
+1052	Xe-119	3.5	β^+	5.800 m	5.17		1.6633E+06	1.3100E+06	6
1053	Xe-120	0.0	β^+	40.000 m	2.50		4.3000E+04	4.3000E+05	6
1054	Xe-121	2.5	β^+	40.100 m	0.50		5.6000E+05	1.6442E+06	6
1055	Xe-122	0.0	β^+	20.111 h	0.55		8.0000E+03	1.4861E+05	6
1056	Xe-123	0.5	β^+	2.081 h	1.07		1.8600E+05	6.4000E+05	6
1057	Xe-124	0.0							1
1058	Xe-125	0.5	β^+	16.900 h	1.18		3.4513E+04	2.7053E+05	2
1059	Xe-125m	4.5	IT	56.000 s	5.36		1.3639E+05	1.1606E+05	2
1060	Xe-126	0.0							1
1061	Xe-127	0.5	β^+	36.440 d	0.19		3.2499E+04	2.8066E+05	2
1062	Xe-127m	4.5	IT	1.160 m	1.29		1.2874E+05	1.6848E+05	2
1063	Xe-128	0.0							1
1064	Xe-129	0.5							1
1065	Xe-129m	5.5	IT	8.870 d	0.56		1.8417E+05	5.1702E+04	2
1066	Xe-130	0.0							1
1067	Xe-131	1.5							1
1068	Xe-131m	5.5	IT	11.870 d	0.42		1.4262E+05	2.1198E+04	2
1069	Xe-132	0.0							1
1070	Xe-133	1.5	β^-	5.243 d	0.06		1.3567E+05	4.6187E+04	2
1071	Xe-133m	5.5	IT	2.190 d	0.91		1.9238E+05	4.0790E+04	2
1072	Xe-134	0.0							1
1073	Xe-134m	7.0	IT	0.290 s	0.59		6.8226E+04	1.8971E+06	6
1074	Xe-135	1.5	β^-	9.090 h	0.11		3.1654E+05	2.4859E+05	6
1075	Xe-135m	5.5	β^-:0.04;IT:99.96	15.650 m	0.64		9.5144E+04	4.3174E+05	13
1076	Xe-136	0.0							1
1077	Xe-137	3.5	β^-	3.818 m	0.35		1.5100E+06	2.3500E+05	6
1078	Xe-138	0.0	β^-	14.170 m	0.49		6.7110E+05	1.1257E+06	6
1079	Xe-139	1.5	β^-	39.680 s	0.35		1.8000E+06	9.2000E+05	6
1080	Cs-122	1.0	β^+	21.000 s	3.33		2.6800E+06	1.2347E+06	6
1081	Cs-122m	8.0	β^+	4.500 m	4.44		1.4600E+06	3.1291E+06	6
1082	Cs-122n	5.0	IT	0.360 s	5.56		4.0000E+03	3.3000E+03	7
1083	Cs-123	0.5	β^+	5.867 m	0.85		9.5000E+05	9.1200E+05	6
1084	Cs-123m	5.5	IT	1.600 s	9.38			1.5900E+05	6
1085	Cs-124	1.0	β^+	30.800 s	1.62		1.9400E+06	1.2400E+06	6
1086	Cs-124m	7.0	IT	6.300 s	3.17		1.0400E+05	3.0400E+05	6
1087	Cs-125	0.5	β^+	45.000 m	2.22		3.3000E+05	7.4000E+05	6
1088	Cs-126	1.0	β^+	1.640 m	1.22		1.3400E+06	1.1450E+06	6
1089	Cs-127	0.5	β^+	6.250 h	1.78		3.1000E+04	3.9900E+05	6
1090	Cs-128	1.0	β^+	3.620 m	0.55		8.7000E+05	8.8900E+05	6
1091	Cs-129	0.5	β^+	1.342 d	0.62		1.7418E+04	2.8321E+05	2
1092	Cs-130	1.0	β^+	29.900 m	0.33		3.9400E+05	5.1000E+05	6
+1093	Cs-130m	5.0	IT:99.84;β^+:0.16	3.460 m	0.00		1.6760E+03	1.6467E+05	8
1094	Cs-131	2.5	β^+	9.690 d	0.21		6.3696E+03	2.3121E+04	2
1095	Cs-132	2.0	β^-:1.8;β^+:98.2	6.530 d	0.31		1.4114E+04	7.1525E+05	2
1096	Cs-133	3.5							1
1097	Cs-134	4.0	β^-:100.0;β^+:~	2.065 y	0.03		1.6339E+05	1.5541E+06	2
1098	Cs-134m	8.0	IT	2.908 h	0.10		1.1178E+05	2.7075E+04	2
1099	Cs-135	3.5	β^-	2.40E+06 y	12.50		6.6864E+04		2
1100	Cs-135m	9.5	IT	53.000 m	3.77		3.6918E+04	1.5965E+06	2

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
1101	Cs-136	5.0	β^-	13.030 d	0.54		1.4189E+05	2.1456E+06	2
1102	Cs-136m	8.0	β^-:50.0;IT:50.0	19.000 s	10.53		6.1667E+05	6.1667E+05	2
1103	Cs-137	3.5	β_g^-:5.4; β_m^-:94.6	30.172 y	0.54		1.8654E+05	3.7697E+01	2
1104	Cs-138	3.0	β^-	32.200 m	0.31		1.2688E+06	2.3611E+06	6
1105	Cs-138m	6.0	β^-:19.0;IT:81.0	2.900 m	3.45		3.2600E+05	4.2000E+05	6
1106	Cs-139	3.5	β^-	9.267 m	0.54		1.6400E+06	2.9900E+05	6
1107	Cs-140	1.0	β^-	1.062 m	0.47		1.8600E+06	1.5900E+06	6
+1108	Cs-141	3.5	β^-:99.97;β^-,n:0.04	24.940 s	0.24	2.7000E+05	1.5800E+06	1.1400E+06	6
+1109	Ba-123	?	β^+	2.700 m	14.81		1.8333E+06	3.8100E+05	6
1110	Ba-124	?	β^+	11.833 m	8.45		8.6666E+05	3.2523E+05	6
1111	Ba-125	0.5	β^+	3.500 m	11.43		1.5267E+06	3.1600E+05	6
1112	Ba-126	0.0	β^+	1.667 h	2.00		1.8127E+04	5.6512E+05	2
1113	Ba-127	0.5	β^+	12.700 m	3.15		5.9000E+05	7.2200E+05	6
+1114	Ba-127m	3.5	IT	1.900 s	0.00			8.0330E+04	8
1115	Ba-128	0.0	β^+	2.431 d	2.38		7.0100E+03	6.6000E+04	6
1116	Ba-129	0.5	β^+	2.380 h	4.62		1.2727E+05	4.6647E+05	2
1117	Ba-129m	3.5	β^+	2.140 h	2.34		6.9097E+04	1.2075E+06	2
1118	Ba-130	0.0							1
1119	Ba-131	0.5	β^+	11.550 d	0.43		4.6252E+04	4.5952E+05	2
1120	Ba-131m	4.5	IT	14.600 m	1.37		1.1009E+05	7.7147E+04	2
1121	Ba-132	0.0							1
1122	Ba-133	0.5	β^+	10.574 y	0.39		5.3643E+04	4.0264E+05	2
1123	Ba-133m	5.5	β^+:0.01;IT:99.99	1.592 d	0.79		2.2161E+05	6.6909E+04	2
1124	Ba-134	0.0							1
1125	Ba-135	1.5							1
1126	Ba-135m	5.5	IT	1.196 d	0.70		2.0841E+05	5.8124E+04	6
1127	Ba-136	0.0							1
1128	Ba-136m	7.0	IT	0.308 s	0.62		1.0691E+05	1.9235E+06	6
1129	Ba-137	1.5							1
1130	Ba-137m	5.5	IT	2.553 m	0.04		6.2931E+04	5.9861E+05	2
1131	Ba-138	0.0							1
1132	Ba-139	3.5	β^-	1.384 h	0.34		8.9800E+05	4.6000E+04	6
1133	Ba-140	0.0	β^-	12.740 d	0.39		3.1376E+05	1.8281E+05	6
1134	Ba-141	0.0	β^-	18.270 m	0.38		8.9000E+05	9.6564E+05	6
1135	Ba-142	0.0	β^-	10.600 m	1.89		4.7000E+05	7.6000E+05	6
1136	Ba-143	0.0	β^-	14.500 s	3.45		1.2000E+06	8.7000E+05	6
1137	La-128	?	β^+	5.000 m	6.00		2.2100E+06	2.9000E+06	6
1138	La-129	1.5	β^+	11.600 m	1.72		7.8000E+05	1.0000E+06	6
1139	La-129m	5.5	IT	0.560 s	8.93		1.1100E+05	4.8400E+04	6
1140	La-130	3.0	β^+	8.700 m	1.15		2.7000E+06	3.5000E+06	6
1141	La-131	1.5	β^+	59.000 m	3.39		2.0700E+05	6.7000E+05	6
1142	La-132	2.0	β^+	4.806 h	4.62		5.4000E+05	1.9800E+06	6
1143	La-132m	6.0	β^+:24.0;IT:76.0	24.300 m	2.06			4.9100E+05	6
1144	La-133	2.5	β^+	3.911 h	0.21		4.1000E+04	1.5000E+05	6
1145	La-134	1.0	β^+	6.450 m	2.58		7.5800E+05	7.1600E+05	6
1146	La-135	2.5	β^+	19.500 h	1.14		5.1200E+03	3.5700E+04	6
1147	La-136	1.0	β^+	9.870 m	0.30		6.0000E+05	4.1000E+05	6
1148	La-136m	7.0	IT	0.114 s	2.63		4.2000E+04	1.5000E+05	7
1149	La-137	3.5	β^+	6.00E+04 y	33.33		6.5521E+03	2.5590E+04	2
1150	La-138	5.0	β^-:32.9;β^+:67.1	1.05E+11 y	15.24		3.5011E+04	1.2381E+06	6
1151	La-139	3.5							1
1152	La-140	3.0	β^-	1.679 d	0.01		5.3511E+05	2.3126E+06	2
1153	La-141	0.0	β^-	3.930 h	1.27		9.4244E+05	4.6057E+04	6
1154	La-142	2.0	β^-	1.519 h	0.55		8.6400E+05	2.3680E+06	6
1155	La-143	?	β^-	14.133 m	1.18		1.2500E+06	1.3000E+05	6
1156	La-144	?	β^-	40.800 s	0.98		1.3800E+06	2.2400E+06	6
+1157	La-145	0.0	β^-	24.200 s	0.00		8.5000E+05	1.4800E+06	6
+1158	La-146	2.0	β^-	6.270 s	1.59		1.9200E+06	2.2800E+06	6
+1159	La-146m	6.0	β^-	10.000 s	1.00		2.1740E+06	1.3238E+06	6
+1160	La-147	2.5	β^-:99.96;β^-,n:0.04	4.000 s	0.00		1.6000E+06	1.2600E+06	6
+1161	Ce-129	2.5	β_g^+:50.0; β_m^+:50.0	3.500 m	0.00		1.6546E+06	1.6546E+06	8
1162	Ce-130	0.0	β^+	25.000 m	8.00		2.3000E+04	6.0000E+04	9
1163	Ce-131	3.5	β^+	10.000 m	10.00		9.7000E+03	7.3856E+05	7
1164	Ce-131m	0.5	β^+	5.000 m	20.00		1.3403E+06	1.8422E+05	7
1165	Ce-132	0.0	β^+	3.510 h	3.13		1.6900E+04	2.7300E+05	10
1166	Ce-133	4.5	β^+	4.889 h	8.52		6.1000E+04	1.7290E+06	6
1167	Ce-133m	0.5	β^+	1.617 h	4.12		3.5000E+05	5.2000E+05	6
1168	Ce-134	0.0	β^+	3.160 d	1.47		5.2000E+03	2.9100E+04	6
1169	Ce-135	0.5	β^+	17.694 h	1.26		1.7500E+04	8.2100E+05	6
1170	Ce-135m	5.5	IT	20.000 s	5.00		2.0000E+05	2.5800E+05	6
1171	Ce-136	0.0							1

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
1172	Ce-137	1.5	β^+	9.000 h	3.40		5.0700E+03	4.0500E+04	6
1173	Ce-137m	5.5	β^+:0.78;IT:99.22	1.433 d	0.89		2.0300E+05	5.5400E+04	6
1174	Ce-138	0.0							1
1175	Ce-139	1.5	β^+	137.650 d	0.02		3.4161E+04	1.6139E+05	2
1176	Ce-139m	5.5	IT	56.100 s	1.07		5.5095E+04	6.9912E+05	2
1177	Ce-140	0.0							1
1178	Ce-141	3.5	β^-	32.500 d	0.03		1.7085E+05	7.6571E+04	6
1179	Ce-142	0.0	α	5.00E+16 y	50.10	1.3050E+06			13
1180	Ce-143	1.5	β^-	1.375 d	0.61		4.3731E+05	2.7263E+05	6
1181	Ce-144	0.0	β_g^-:98.5; β_m^-:1.5	284.896 d	0.07		9.1600E+04	1.9400E+04	6
1182	Ce-145	1.5	β^-	2.950 m	2.03		7.6259E+05	6.0103E+05	2
1183	Ce-146	0.0	β^-	14.200 m	3.52		2.6000E+05	1.8000E+05	6
1184	Ce-147	2.5	β^-	57.000 s	3.51		1.2820E+06	1.7416E+05	2
1185	Ce-148	0.0	β^-	56.000 s	1.79		6.3000E+05	3.0300E+05	6
1186	Ce-149	?	β^-	5.200 s	9.62		6.1531E+05	2.6370E+06	6
1187	Pr-134	2.0	β^+	17.000 m	11.76		2.0333E+06	2.0333E+06	6
1188	Pr-134m	5.0	β^+	11.000 m	45.45		2.0337E+06	2.0337E+06	13
1189	Pr-135	1.5	β^+	24.000 m	8.33		6.1000E+05	8.9000E+05	6
1190	Pr-136	2.0	β^+	13.100 m	0.76		1.4500E+06	2.1400E+06	6
1191	Pr-137	2.5	β^+	1.281 h	1.74		1.9000E+05	3.7000E+05	6
1192	Pr-138	1.0	β^+	1.450 m	3.45		1.1600E+06	8.1500E+05	6
1193	Pr-138m	7.0	β^+	2.111 h	5.26		2.2600E+05	2.4800E+06	6
1194	Pr-139	2.5	β^+	4.411 h	0.94		8.7680E+04	1.2950E+05	6
1195	Pr-140	1.0	β^+	3.390 m	0.29		5.4460E+05	5.4250E+05	6
1196	Pr-141	2.5							1
1197	Pr-142	2.0	β^-:99.98;β^+:0.02	19.130 h	0.21		8.0871E+05	5.8432E+04	6
1198	Pr-142m	5.0	IT	14.600 m	3.42			3.6830E+03	6
1199	Pr-143	3.5	β^-	13.560 d	0.07		3.1460E+05	8.9038E-03	2
1200	Pr-144	0.0	β^-	17.280 m	0.12		1.2006E+06	3.3763E+04	2
1201	Pr-144m	3.0	IT:99.93;β^-:0.07	6.900 m	10.14		4.7168E+04	1.3662E+04	2
1202	Pr-145	3.5	β^-	5.980 h	0.33		6.7375E+05	2.7710E+04	6
1203	Pr-146	2.0	β^-	24.150 m	0.76		1.3200E+06	1.0100E+06	6
1204	Pr-147	0.0	β^-	13.600 m	3.68		7.6000E+05	8.4000E+05	6
1205	Pr-148	1.0	β^-	2.270 m	1.76		1.7655E+06	7.1581E+05	6
1206	Pr-148m	4.0	β^-	2.000 m	5.00		1.7159E+06	9.4519E+05	6
1207	Pr-149	2.5	β^-	2.267 m	3.68		1.1000E+06	4.1783E+05	6
1208	Pr-150	1.0	β^-	6.100 s	6.56		2.2302E+06	5.5420E+05	2
+1209	Pr-151	0.5	β^-	18.900 s	0.37		1.4730E+06	6.5500E+05	6
+1210	Nd-135	4.5	β^+	12.333 m	5.41		9.8000E+05	1.2700E+06	6
+1211	Nd-135m	0.5	β^+:99.97;IT:0.03	5.500 m	0.00		1.6050E+06	1.6050E+06	8
1212	Nd-136	0.0	β^+	50.650 m	0.66		1.0600E+05	2.9000E+05	6
1213	Nd-137	0.5	β^+	38.500 m	3.90		2.5400E+05	1.1664E+06	6
1214	Nd-137m	5.5	IT	1.600 s	9.38		7.9900E+04	3.5400E+05	6
1215	Nd-138	0.0	β^+	5.028 h	2.21		5.7000E+03	4.7500E+04	6
1216	Nd-139	1.5	β^+	29.667 m	1.69		4.0000E+05	4.4200E+05	6
1217	Nd-139m	5.5	β^+:88.2;IT:11.8	5.500 h	4.04		1.1300E+07	1.5800E+06	6
1218	Nd-140	0.0	β^+	3.370 d	0.59		6.7347E+03	2.7727E+04	2
1219	Nd-141	1.5	β^+	2.489 h	1.23		1.4200E+04	7.5100E+04	6
1220	Nd-141m	5.5	β^+:0.03;IT:99.97	1.040 m	1.44		5.8900E+04	6.9430E+05	6
1221	Nd-142	0.0							1
1222	Nd-143	3.5							1
1223	Nd-144	0.0	α	2.10E+15 y	19.05	1.8823E+06			6
1224	Nd-145	3.5							1
1225	Nd-146	0.0							1
1226	Nd-147	2.5	β^-	11.020 d	0.18		2.7060E+05	1.3813E+05	2
1227	Nd-148	0.0							1
1228	Nd-149	2.5	β^-	1.725 h	0.48		5.1000E+05	3.7100E+05	6
1229	Nd-150	0.0							1
1230	Nd-151	1.5	β^-	12.433 m	0.67		5.3800E+05	9.4600E+05	6
1231	Nd-152	0.0	β^-	11.400 m	1.75		3.5179E+05	1.6271E+05	6
1232	Nd-153	0.5	β^-	32.000 s	1.25		1.4070E+06	9.3000E+04	13
+1233	Nd-154	0.0	β^-	25.900 s	0.77		7.9050E+05	3.9600E+05	6
+1234	Pm-135	5.5	β^+	49.000 s	14.29		2.0000E+06	2.6585E+06	6
+1235	Pm-135m	5.5	β_g^+:100.0; β_m^+:~	40.000 s	0.00		2.0300E+06	2.0300E+06	8
+1236	Pm-136	2.0	β^+	1.783 m	5.61		1.1200E+05	2.6300E+06	16
+1237	Pm-136m	2.0	β^+	47.000 s	0.00		2.7100E+06	2.7100E+06	8
+1238	Pm-137	5.5	β^+	2.400 m	4.17		8.3800E+05	1.7259E+06	6
+1239	Pm-138	1.0	β^+	10.000 s	20.00		2.6300E+06	9.5754E+05	6
+1240	Pm-138m	3.0	β^+	3.233 m	1.55		9.1000E+03	2.4200E+06	16
+1241	Pm-139	2.5	β^+	4.150 m	1.20		1.9100E+06	9.5000E+05	6
+1242	Pm-139m	5.5	IT	0.180 s	11.11		1.0180E+05	8.5300E+04	6

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
1243	Pm-140	1.0	β^+	9.200 s	2.17		2.0340E+06	1.0500E+06	6
1244	Pm-140m	7.0	β^+	5.950 m	0.84		9.8000E+05	3.0200E+06	6
1245	Pm-141	2.5	β^+	20.900 m	0.24		6.3100E+05	7.4900E+05	6
1246	Pm-142	1.0	β^+	40.500 s	1.23		1.3680E+06	8.6900E+05	6
1247	Pm-143	2.5	β^+	266.000 d	3.01		8.1138E+03	3.1582E+05	2
1248	Pm-144	5.0	β^+	363.000 d	3.86		1.6773E+04	1.5556E+06	2
1249	Pm-145	2.5	β^+:100.0;α:~	17.700 y	2.26	6.5020E-03	1.2201E+04	3.1528E+04	2
1250	Pm-146	3.0	β^-:34.0;β^+:66.0	5.531 y	0.89		9.4413E+04	7.5429E+05	2
1251	Pm-147	3.5	β^-	2.622 y	0.23		6.1761E+04	4.2643E+00	2
1252	Pm-148	1.0	β^-	5.368 d	0.15		7.2630E+05	5.7649E+05	2
1253	Pm-148m	6.0	β^-:95.0;IT:5.0	41.050 d	0.34		1.7105E+05	1.9836E+06	2
1254	Pm-149	3.5	β^-	2.212 d	0.09		3.6677E+05	1.2698E+04	2
1255	Pm-150	1.0	β^-	2.680 h	0.75		7.4643E+05	1.4919E+06	6
1256	Pm-151	2.5	β^-	1.171 d	1.07		3.0320E+05	3.2416E+05	2
1257	Pm-152	1.0	β^-	4.120 m	2.18		1.3913E+06	1.4710E+05	2
1258	Pm-152m	4.0	β^-	7.500 m	1.33		9.0026E+05	1.5018E+06	2
1259	Pm-152n	8.0	β^-	14.400 m	4.86		7.2841E+05	2.1608E+06	2
1260	Pm-153	2.5	β^-	5.400 m	3.70		6.8468E+05	5.3666E+04	6
1261	Pm-154	0.0	β^-	1.700 m	11.76		8.8445E+05	1.7925E+06	6
1262	Pm-154m	3.0	β^-	2.700 m	3.70		8.9759E+05	1.8530E+06	6
1263	Pm-155	2.5	β^-	48.000 s	8.33		1.1290E+06	2.9600E+05	6
1264	Pm-156	?	β^-	26.700 s	3.75		1.0512E+06	2.2150E+06	6
+1265	Pm-157	2.5	β^-	10.900 s	1.83		1.6890E+06	4.7700E+05	16
+1266	Sm-136	0.0	β^+	42.700 s	5.15		5.3000E+04	3.0827E+05	6
+1267	Sm-137	4.5	β^+	45.000 s	0.00		1.9068E+06	1.9068E+06	16
+1268	Sm-137m	0.5	β^+	20.000 s	0.00		2.0268E+06	2.0268E+06	16
+1269	Sm-138	0.0	β^+	3.000 m	10.00		1.2000E+06	1.2000E+06	6
+1270	Sm-139	0.5	β^+	2.567 m	3.90		1.7100E+06	1.5100E+06	6
+1271	Sm-139m	5.5	β^+:6.3;IT:93.7	10.700 s	5.61		1.5400E+05	2.6300E+05	6
+1272	Sm-140	0.0	β^+	14.817 m	0.67		2.3000E+05	6.0000E+05	6
+1273	Sm-141	0.5	β^+	10.200 m	1.96		7.0000E+05	1.4040E+06	6
+1274	Sm-141m	5.5	β^+:99.69;IT:0.31	22.600 m	0.88		3.4900E+05	1.9100E+06	6
1275	Sm-142	0.0	β^+	1.208 h	0.07		3.2700E+04	9.5000E+04	6
1276	Sm-143	1.5	β^+	8.830 m	0.23		4.7760E+05	5.1510E+05	6
1277	Sm-143m	5.5	β^+:0.33;IT:99.67	1.100 m	3.03		6.8500E+04	6.8460E+05	6
1278	Sm-144	0.0							1
1279	Sm-145	3.5	β^+	340.000 d	0.88		2.9495E+04	6.2987E+04	2
1280	Sm-146	0.0	α	1.00E+08 y	8.00	2.5705E+06			2
1281	Sm-147	3.5	α	1.06E+11 y	0.94	2.3107E+06			2
1282	Sm-148	0.0	α	6.97E+15 y	45.45	1.9862E+06			6
1283	Sm-149	3.5	α	2.00E+15 y	47.53	1.8400E+06			13
1284	Sm-150	0.0							1
1285	Sm-151	2.5	β^-	90.002 y	6.67		1.9873E+04	1.4325E+01	2
1286	Sm-152	0.0							1
1287	Sm-153	1.5	β^-	1.929 d	0.09		2.6830E+05	6.2819E+04	2
1288	Sm-154	0.0							1
1289	Sm-155	1.5	β^-	22.100 m	0.90		5.9576E+05	1.0448E+05	6
1290	Sm-156	0.0	β^-	9.400 h	2.13		2.0115E+05	1.2473E+05	6
1291	Sm-157	1.5	β^-	8.067 m	1.65		1.2000E+04	5.3200E+05	6
1292	Sm-158	0.0	β^-	5.517 m	1.81		4.7943E+05	3.3000E+05	6
1293	Sm-159	2.5	β^-	11.200 s	1.34		1.3799E+06	5.1600E+05	13
+1294	Eu-138	7.0	β^+	12.100 s	4.96		3.0666E+06	3.0666E+06	6
+1295	Eu-139	5.5	β^+	17.900 s	3.35		2.2000E+06	1.6200E+06	6
+1296	Eu-140	1.0	β^+	1.540 s	8.44		2.7333E+06	7.8000E+05	16
+1297	Eu-141	2.5	β^+	40.000 s	1.75		1.8090E+06	1.1710E+06	6
+1298	Eu-141m	5.5	β^+:67.0;IT:33.0	2.700 s	11.11		1.3020E+06	6.2000E+05	6
+1299	Eu-142	1.0	β^+	2.400 s	8.33		2.9500E+06	1.1364E+06	6
+1300	Eu-142m	8.0	β^+	1.220 m	1.64		1.7400E+06	3.1509E+06	6
1301	Eu-143	2.5	β^+	2.633 m	1.90		1.2950E+06	1.1060E+06	6
1302	Eu-144	1.0	β^+	10.200 s	0.98		2.0630E+06	1.0900E+06	6
1303	Eu-145	2.5	β^+	5.926 d	0.78		2.5000E+04	1.3400E+06	6
1304	Eu-146	4.0	β^+	4.595 d	0.76		4.6400E+04	2.1700E+06	6
1305	Eu-147	2.5	β^+:100.0;α:~	23.958 d	4.35	6.3980E+01	3.9000E+04	4.9700E+05	6
1306	Eu-148	5.0	β^+:100.0;α:~	54.514 d	1.06	2.4720E-02	1.8900E+04	2.2300E+06	6
1307	Eu-149	2.5	β^+	93.100 d	0.43		2.4141E+04	6.6020E+04	2
1308	Eu-150	5.0	β^+	36.359 y	1.96		2.7212E+04	1.5280E+06	2
1309	Eu-150m	0.0	β^-:88.0;β^+:12.0	12.800 h	1.56		3.0729E+05	5.0219E+04	2
1310	Eu-151	2.5							1
1311	Eu-152	3.0	β^-:28.0;β^+:72.0	13.523 y	0.10		1.2910E+05	1.1642E+06	2
1312	Eu-152m	0.0	β^-:72.0;β^+:28.0	9.275 h	0.10		5.0195E+05	3.1109E+05	2
1313	Eu-152n	8.0	IT	1.600 h	3.13		7.2264E+04	7.5506E+04	2

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
1314	Eu-153	2.5							1
1315	Eu-154	3.0	β^-:99.98;β^+:0.02	8.593 y	0.04		2.7446E+05	1.2453E+06	2
1316	Eu-154m	8.0	IT	46.400 m	1.08		8.2497E+04	7.4358E+04	2
1317	Eu-155	2.5	β^-	4.846 y	2.82		6.6564E+04	6.4157E+04	2
1318	Eu-156	0.0	β^-	15.200 d	0.86		4.4784E+05	1.2832E+06	2
1319	Eu-157	2.5	β^-	15.181 h	0.20		1.7800E+04	2.9200E+05	6
1320	Eu-158	1.0	β^-	45.900 m	0.44		9.6000E+05	1.0840E+06	6
1321	Eu-159	2.5	β^-	18.700 m	2.14		8.8535E+05	2.7335E+05	6
1322	Eu-160	?	β^-	52.800 s	18.94		1.3776E+06	1.8151E+06	6
+1323	Eu-161	?	β^-	25.000 s	0.00		1.4865E+06	3.8900E+05	6
+1324	Eu-162	?	β^-	9.300 s	0.00		1.1450E+06	2.3110E+06	6
+1325	Eu-163	2.5	β^-	6.000 s	0.00		1.6207E+06	1.6207E+06	8
+1326	Gd-139	?	β^+,p	4.900 s	20.41				6
+1327	Gd-140	0.0	β^+	15.800 s	0.00		1.8201E+06	1.8201E+06	16
+1328	Gd-141	0.5	β^+:99.97;β^+,p:0.03	14.000 s	0.00		2.2734E+06	2.2734E+06	16
+1329	Gd-141m	5.5	β_m^+:89.0; IT_g:11.0	24.500 s	0.00		2.1074E+06	2.1490E+06	16
+1330	Gd-142	0.0	β^+	1.500 m	20.00		9.0000E+05	6.5400E+05	6
+1331	Gd-143	0.5	β^+	39.000 s	5.13		1.7200E+06	1.2040E+06	6
+1332	Gd-143m	5.5	β^+	1.867 m	1.79		1.1200E+06	2.1050E+06	6
+1333	Gd-144	0.0	β^+	4.500 m	2.22		1.2333E+06	1.2333E+06	6
1334	Gd-145	0.5	β^+	23.000 m	1.74		3.4400E+05	2.4300E+06	6
1335	Gd-145m	5.5	β^+:5.7;IT:94.3	1.417 m	3.53		1.8400E+05	6.7300E+05	6
1336	Gd-146	0.0	β^+	48.275 d	0.22		1.2170E+05	2.5450E+05	6
1337	Gd-147	3.5	β^+	1.588 d	0.29		5.2000E+04	1.2500E+06	6
1338	Gd-148	0.0	α	74.469 y	4.26	3.2690E+06			6
1339	Gd-149	3.5	β^+	9.375 d	3.70		6.5000E+04	5.2000E+05	6
1340	Gd-150	0.0	α	1.82E+06 y	9.34	2.7967E+06			2
1341	Gd-151	3.5	β^+:100.0;α:~	124.000 d	0.81	2.6708E-02	3.8833E+04	7.0400E+04	2
1342	Gd-152	0.0	α	1.08E+14 y	7.41	2.1978E+06			6
1343	Gd-153	1.5	β^+	240.500 d	0.29		4.3730E+04	1.0665E+05	2
1344	Gd-154	0.0							1
1345	Gd-155	1.5							1
1346	Gd-156	0.0							1
1347	Gd-157	1.5							1
1348	Gd-158	0.0							1
1349	Gd-159	1.5	β^-	18.560 h	0.43		3.1167E+05	5.1946E+04	6
1350	Gd-160	0.0							1
1351	Gd-161	2.5	β^-	3.667 m	1.36		5.8020E+05	3.9300E+05	6
1352	Gd-162	0.0	β^-	9.000 m	11.11		3.5259E+05	4.2706E+05	6
1353	Gd-163	2.5	β^-	1.133 m	4.41		3.8800E+05	1.9880E+06	6
1354	Gd-164	0.0	β^-	31.800 s	9.43		1.1502E+06	8.9700E+05	13
1355	Gd-165	?	β^-	42.295 s	47.29		1.2300E+06	8.8110E+05	13
+1356	Tb-144	1.0	β^+	1.000 s	0.00		3.0000E+06	2.8770E+05	6
+1357	Tb-144m	6.0	β^+:34.0;IT:66.0	4.250 s	3.53		2.4900E+03	6.5670E+05	6
+1358	Tb-145	1.5	β_g^+:100.0; β_m^+:~	20.000 m	0.00		2.2332E+06	2.2332E+06	8
+1359	Tb-145m	5.5	β^+	29.500 s	5.08		1.0300E+06	2.2500E+06	16
1360	Tb-146	1.0	β^+	8.000 s	50.00		3.0270E+06	1.1700E+06	6
1361	Tb-146m	5.0	β^+	23.000 s	8.70		1.2100E+06	3.5300E+06	6
1362	Tb-147	2.5	β^+	1.639 h	6.78		5.6000E+05	1.5900E+06	6
1363	Tb-147m	5.5	β^+	1.833 m	3.64		3.5800E+05	1.8000E+06	7
1364	Tb-148	2.0	β^+	1.000 h	1.67		8.2300E+05	2.3330E+06	6
1365	Tb-148m	9.0	β^+	2.200 m	2.27		2.7900E+05	2.9000E+06	6
1366	Tb-149	0.5	β^+:83.3;α:16.7	4.131 h	0.54	6.6270E+05	9.2100E+04	1.3950E+06	6
1367	Tb-149m	5.5	β^+:99.98;α:0.02	4.160 m	0.96	1.2139E+06	1.7148E+05	1.4199E+06	6
1368	Tb-150	2.0	β^+:95.0;α:5.0	3.472 h	4.80	1.7460E+05	4.0000E+05	2.0200E+06	6
1369	Tb-150m	9.0	β^+	5.800 m	3.45		1.4500E+04	2.3700E+06	7
1370	Tb-151	0.5	β^+:99.99;α:~	17.608 h	0.08	3.2420E+02	7.6000E+04	9.9300E+05	6
1371	Tb-151m	5.5	β^+:6.6;IT:93.4	25.000 s	12.00		1.2000E+03	7.8000E+04	6
1372	Tb-152	2.0	β^+	17.500 h	1.75		2.2000E+05	1.3800E+06	6
1373	Tb-152m	8.0	β^+:21.1;IT:78.9	4.300 m	4.65		1.3000E+05	7.5000E+05	6
1374	Tb-153	2.5	β^+	2.340 d	0.45		3.4400E+04	3.0700E+05	6
1375	Tb-154	0.0	β^+	21.500 h	1.94		3.2000E+04	2.2100E+06	6
1376	Tb-154m	3.0	β^+:78.2;IT:21.8	9.000 h	5.56		4.6000E+04	1.2900E+06	6
1377	Tb-154n	7.0	β^+:98.2;IT:1.8	22.694 h	2.20		9.4000E+04	2.0600E+06	6
1378	Tb-155	1.5	β^+	5.324 d	1.30		3.8000E+04	1.7600E+05	6
1379	Tb-156	3.0	β^+	5.170 d	2.32		8.4601E+04	1.9354E+06	2
1380	Tb-156m	7.0	IT	1.017 d	4.10		2.2064E+04	3.7589E+04	2
1381	Tb-156n	0.0	β^+:0.19;IT:99.81	5.100 h	5.88		8.4062E+04	4.7432E+03	2
1382	Tb-157	1.5	β^+	99.002 y	10.10		5.6996E+03	1.0394E+04	2
1383	Tb-158	3.0	β^-:16.6;β^+:83.4	180.626 y	7.02		1.0100E+05	8.0400E+05	6
1384	Tb-158m	0.0	IT	10.500 s	1.90		8.2400E+04	2.4100E+04	6

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
1385	Tb-159	1.5							1
1386	Tb-160	3.0	β^-	72.300 d	0.28		2.5424E+05	1.1245E+06	6
1387	Tb-161	1.5	β^-	6.890 d	0.44		2.0074E+05	3.3762E+04	2
1388	Tb-162	1.0	β^-	7.600 m	1.97		5.4000E+05	1.1060E+06	6
1389	Tb-163	1.5	β^-	19.500 m	1.54		3.3600E+05	7.8800E+05	6
1390	Tb-164	5.0	β^-	3.000 m	3.33		7.0000E+04	2.3400E+06	6
1391	Tb-165	1.5	β_m^-:86.0; β_g^-:14.0	2.110 m	4.74		9.8900E+05	4.9700E+05	13
1392	Tb-166	?	β^-	1.388 m	48.02		8.2509E+05	2.3420E+06	13
+1393	Tb-167	1.5	β^-	19.000 s	0.00		1.3665E+06	1.3665E+06	8
+1394	Tb-168	4.0	β^-	8.200 s	0.00		1.9903E+06	1.9903E+06	8
+1395	Dy-147	0.5	β^+:99.95;β^+,p:0.05	40.000 s	0.00		2.1232E+06	2.1232E+06	16
+1396	Dy-147m	5.5	β^+:60.0;IT:40.0	59.000 s	5.08		2.5560E+06	1.1660E+06	6
1397	Dy-148	0.0	β^+	3.100 m	3.23		2.3200E+04	6.9000E+05	6
1398	Dy-149	3.5	β^+	4.233 m	4.33		1.2000E+06	2.2500E+06	6
1399	Dy-150	0.0	β^+:64.0;α:36.0	7.170 m	0.28	1.3969E+06	1.9000E+03	2.5400E+05	6
1400	Dy-151	3.5	β^+:94.4;α:5.6	17.900 m	1.68	2.2775E+05	7.5000E+04	1.3500E+06	6
1401	Dy-152	0.0	β^+:99.9;α:0.1	2.369 h	0.94	3.6290E+03	1.0200E+04	2.5014E+05	6
1402	Dy-153	3.5	β^+:99.99;α:~	6.389 h	1.74	3.2570E+02	4.9000E+04	6.8900E+05	6
1403	Dy-154	0.0	α	2.85E+06 y	55.56	2.9470E+06			6
1404	Dy-155	1.5	β^+	10.000 h	3.06		2.3000E+04	6.4100E+05	6
1405	Dy-156	0.0							1
1406	Dy-157	1.5	β^+	8.140 h	0.61		1.3286E+04	3.5036E+05	2
1407	Dy-158	0.0							1
1408	Dy-159	1.5	β^+	144.400 d	0.14		1.2822E+04	4.5509E+04	2
1409	Dy-160	0.0							1
1410	Dy-161	2.5							1
1411	Dy-162	0.0							1
1412	Dy-163	2.5							1
1413	Dy-164	0.0							1
1414	Dy-165	3.5	β^-	2.334 h	0.26		4.4607E+05	2.6562E+04	6
1415	Dy-165m	0.5	β^-:2.4;IT:97.6	1.258 m	0.48		1.0533E+05	1.9360E+04	6
1416	Dy-166	0.0	β^-	3.400 d	0.12		1.5589E+05	3.9681E+04	6
1417	Dy-167	0.5	β^-	6.200 m	1.34		7.1000E+05	5.3400E+05	6
1418	Dy-168	0.0	β^-	8.500 m	3.53		3.0666E+05	5.8665E+05	13
1419	Dy-169	2.5	β^-	38.900 s	20.57		9.4999E+05	9.4999E+05	15
1420	Dy-170	?	β^-	20.400 s	49.02		6.9666E+05	6.9666E+05	15
1421	Dy-171	?	β^-	3.280 s	48.78		1.4330E+06	1.4330E+06	13
+1422	Ho-152	2.0	β^+:88.0;α:12.0	2.697 m	0.19	5.2830E+05	3.4100E+05	1.6500E+06	6
+1423	Ho-152m	9.0	β^+:89.2;α:10.8	49.500 s	0.61	4.8200E+05	5.0710E+05	3.3700E+06	6
1424	Ho-153	5.5	β^+:99.95;α:0.05	2.000 m	5.00	1.9940E+03	5.2000E+05	1.0100E+06	13
1425	Ho-153m	0.5	β^+:99.82;α:0.18	9.333 m	5.36	7.2200E+03	2.4800E+05	1.5500E+06	6
1426	Ho-154	2.0	β^+:99.98;α:0.02	11.833 m	4.23	7.4800E+02	1.5800E+04	1.1500E+06	7
1427	Ho-154m	8.0	β^+:99.98;α:0.02	3.250 m	3.08	3.7210E+01	3.2000E+04	1.9900E+06	6
1428	Ho-155	2.5	β^+	48.000 m	4.17		2.2000E+05	5.7000E+05	6
1429	Ho-156	5.0	β^+	56.000 m	1.79		6.2800E+04	1.4040E+06	6
1430	Ho-157	3.5	β^+	12.600 m	1.59		4.7100E+04	4.6300E+05	6
1431	Ho-158	5.0	β^+	11.000 m	3.64		1.4067E+06	1.4067E+06	13
1432	Ho-158m	2.0	IT	27.000 m	7.41			1.2500E+02	6
1433	Ho-158n	9.0	β^+	21.333 m	10.94		5.5000E+03	2.7357E+06	6
1434	Ho-159	3.5	β^+	33.050 m	0.35		5.0800E+04	4.5200E+05	6
1435	Ho-159m	0.5	IT	8.300 s	0.96		1.0360E+05	1.0000E+05	6
1436	Ho-160	5.0	β^+	25.300 m	2.77		7.0342E+04	1.7135E+06	2
1437	Ho-160m	2.0	IT:65.0;β^+:35.0	5.000 h	2.00		8.1668E+04	6.4978E+05	2
1438	Ho-160n	9.0	IT	2.900 s	6.90		9.3875E+04	1.0568E+05	2
1439	Ho-161	3.5	β^+	2.480 h	4.84		3.3441E+04	5.8169E+04	2
1440	Ho-161m	0.5	IT	6.770 s	0.89		1.0719E+05	1.0368E+05	2
1441	Ho-162	1.0	β^+	15.000 m	6.67		2.3780E+04	1.5500E+05	6
1442	Ho-162m	6.0	β^+:37.0;IT:63.0	1.117 h	1.49		6.0000E+03	5.8000E+05	6
1443	Ho-163	3.5	β^+	4570.090 y	0.46		2.6500E+03	1.0534E-03	2
1444	Ho-163m	0.5	IT	1.100 s	6.36		6.1236E+04	2.3653E+05	2
1445	Ho-164	1.0	β^-:51.7;β^+:48.3	28.600 m	2.10		1.8426E+05	2.8159E+04	2
1446	Ho-164m	6.0	IT	37.600 m	1.33		9.1905E+04	4.8025E+04	2
1447	Ho-165	3.5							1
1448	Ho-166	0.0	β^-	1.117 d	0.07		6.9403E+05	2.9109E+04	6
1449	Ho-166m	7.0	β^-	1200.025 y	15.00		1.0271E+05	1.7280E+06	6
1450	Ho-167	3.5	β_g^-:88.5; β_m^-:11.5	3.100 h	3.23		2.0738E+05	3.5927E+05	6
1451	Ho-168	3.0	β^-	3.000 m	3.33		7.1594E+05	8.4473E+05	6
1452	Ho-169	3.5	β^-	4.400 m	4.55		6.0300E+05	4.8100E+05	6
1453	Ho-170	6.0	β^-	2.780 m	5.04		8.3608E+05	1.8346E+06	2
1454	Ho-170m	1.0	β^-	43.000 s	4.65		1.3653E+06	6.7937E+05	2
1455	Ho-171	3.5	β^-	53.000 s	3.77		3.3000E+05	3.3000E+05	13

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
1456	Ho-172	?	β^-	25.000 s	12.00		3.3000E+05	3.3000E+05	13
+1457	Ho-173	3.5	β^-	10.000 s	0.00		1.5183E+06	1.5183E+06	8
+1458	Er-153	?	β^+:47.0;α:53.0	37.100 s	0.54	2.5410E+06			6
+1459	Er-154	0.0	β^+:99.53;α:0.47	3.683 m	4.07	6.8828E+05	1.4200E+04	9.3400E+03	6
+1460	Er-155	3.5	β^+:99.98;α:0.02	5.300 m	5.66	8.8260E+02	2.8200E+05	1.7200E+06	6
1461	Er-156	0.0	β^+	19.500 m	5.13		6.8000E+04	1.5063E+04	6
1462	Er-157	1.5	β^+	18.650 m	0.54		2.4000E+04	3.1300E+05	6
1463	Er-158	0.0	β^+	2.250 h	3.70		1.1000E+05	1.2960E+05	6
1464	Er-159	1.5	β^+	36.000 m	2.78		6.2000E+04	8.9000E+05	13
1465	Er-160	0.0	β^+	1.191 d	0.39		1.1000E+05	1.5660E+03	6
1466	Er-161	1.5	β^+	3.211 h	0.95		6.6866E+05	8.8000E+05	6
1467	Er-162	0.0							1
1468	Er-163	2.5	β^+	1.250 h	0.53		5.2600E+03	4.0200E+04	6
1469	Er-164	0.0							1
1470	Er-165	2.5	β^+	10.361 h	0.40		5.1700E+03	3.7800E+04	6
1471	Er-166	0.0							1
1472	Er-167	3.5							1
1473	Er-167m	0.5	IT	2.280 s	1.32		8.9535E+04	1.1828E+05	6
1474	Er-168	0.0							1
1475	Er-169	0.5	β^-	9.300 d	2.15		1.0285E+05	2.0341E+01	6
1476	Er-170	0.0							1
1477	Er-171	2.5	β^-	7.519 h	0.41		4.1400E+05	3.7300E+05	6
1478	Er-172	0.0	β^-	2.054 d	0.61		1.2872E+05	5.1568E+05	2
1479	Er-173	3.5	β^-	1.400 m	7.14		6.6000E+05	8.3000E+05	6
1480	Er-174	0.0	β^-	3.300 m	6.06		7.6700E+05	7.6700E+05	13
1481	Er-175	?	β^-	17.600 s	51.14		1.3630E+06	1.3630E+06	13
+1482	Tm-158	2.0	β^+	4.017 m	2.49		1.5500E+06	1.7100E+06	6
+1483	Tm-159	2.5	β^+	9.150 m	2.00		1.3300E+06	1.3333E+06	6
1484	Tm-160	1.0	β^+	9.400 m	3.19		1.8667E+06	1.1100E+06	6
1485	Tm-160m	5.0	β^+	1.242 m	2.01		1.9000E+05	2.0000E+05	6
1486	Tm-161	3.5	β^+	38.000 m	10.53		1.0343E+06	8.9917E+05	6
1487	Tm-162	1.0	β^+	21.700 m	0.92		1.3100E+05	1.6390E+06	6
1488	Tm-162m	5.0	β^+:18.0;IT:82.0	24.300 s	7.00		8.0000E+04	3.0000E+05	6
1489	Tm-163	0.5	β^+	1.810 h	0.28		6.2600E+04	1.2930E+06	6
1490	Tm-164	1.0	β^+	2.000 m	5.00		5.2000E+05	7.1900E+05	6
1491	Tm-164m	6.0	β^+	5.100 m	1.96		3.1400E+04	3.4900E+05	6
1492	Tm-165	0.5	β^+	1.253 d	0.10		3.6100E+04	5.4700E+05	6
1493	Tm-166	2.0	β^+	7.700 h	0.40		8.4000E+04	1.9400E+06	6
1494	Tm-167	0.5	β^+	9.240 d	0.23		1.2300E+05	1.4600E+05	6
1495	Tm-168	3.0	β^-:0.01;β^+:99.99	93.102 d	0.22		1.2380E+05	1.2140E+06	6
1496	Tm-169	0.5							1
1497	Tm-170	1.0	β^-:99.85;β^+:0.15	128.600 d	0.23		3.2888E+05	5.5017E+03	6
1498	Tm-171	0.5	β^-	1.920 y	0.66		2.5400E+04	6.2400E+02	6
1499	Tm-172	2.0	β^-	2.650 d	0.48		5.2000E+05	4.8500E+05	6
1500	Tm-173	0.5	β^-	8.250 h	1.01		3.0800E+05	3.8800E+05	6
1501	Tm-174	4.0	β^-	5.400 m	1.85		5.1000E+05	1.7800E+06	6
1502	Tm-175	0.5	β^-	15.167 m	3.30		4.2600E+05	1.1650E+06	6
1503	Tm-176	4.0	β^-	1.900 m	5.26		8.4000E+05	1.7060E+06	6
+1504	Tm-177	0.5	β_m^-	1.367 m	0.00		1.0641E+06	1.0641E+06	16
+1505	Tm-178	?	β^-	30.000 s	0.00		1.8618E+06	1.8618E+06	8
+1506	Tm-179	0.5	β^-	20.000 s	0.00		1.6050E+06	1.6050E+06	8
+1507	Yb-159	?	β^+	1.400 m	14.29		1.5333E+06	4.7100E+05	6
+1508	Yb-160	0.0	β^+	4.800 m	0.00		7.8000E+04	2.7929E+05	6
+1509	Yb-161	1.5	β^+	4.200 m	4.76		1.4267E+06	9.4000E+05	6
1510	Yb-162	0.0	β^+	18.867 m	1.06		6.7000E+03	2.3335E+05	6
1511	Yb-163	1.5	β^+	11.050 m	2.26		4.5000E+05	7.1000E+05	6
1512	Yb-164	0.0	β^+	1.264 h	2.42		9.6000E+02	1.3441E+04	6
1513	Yb-165	2.5	β^+	9.900 m	3.03		1.4800E+05	3.3600E+05	6
1514	Yb-166	0.0	β^+	2.362 d	0.20		3.6100E+04	8.6400E+04	6
1515	Yb-167	2.5	β^+	17.500 m	1.14		7.4200E+04	2.7400E+05	6
1516	Yb-168	0.0							1
1517	Yb-169	3.5	β^+	32.010 d	0.06		1.0636E+05	3.2684E+05	6
1518	Yb-169m	0.5	IT	46.000 s	4.35		2.4200E+04	9.0977E-02	6
1519	Yb-170	0.0							1
1520	Yb-171	0.5							1
1521	Yb-172	0.0							1
1522	Yb-173	2.5							1
1523	Yb-174	0.0							1
1524	Yb-175	3.5	β^-	4.185 d	0.02		1.2164E+05	7.9937E+04	2
1525	Yb-176	0.0							1
1526	Yb-176m	8.0	IT	11.400 s	4.39		1.5000E+05	9.0000E+05	6
1527	Yb-177	4.5	β^-	1.889 h	5.88		4.2000E+05	1.8600E+05	6

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
1528	Yb-177m	0.5	IT	6.410 s	0.31		1.7800E+05	1.4940E+05	6
1529	Yb-178	0.0	β^-	1.233 h	4.05		2.1000E+05	6.1660E+05	6
1530	Yb-179	?	β^-	8.167 m	10.20		7.6999E+05	1.5900E+06	6
1531	Yb-180	0.0	β^-	2.400 m	20.83		7.3000E+05	7.3000E+05	13
+1532	Yb-181	1.5	β^-	1.000 m	0.00		1.2980E+06	1.2980E+06	8
+1533	Lu-162	1.0	β^+	1.370 m	1.46		2.3633E+06	1.3800E+06	6
+1534	Lu-163	0.5	β^+	3.967 m	3.36		1.3000E+06	4.1600E+06	6
+1535	Lu-164	?	β^+	3.140 m	0.96		5.1000E+04	9.3000E+05	6
+1536	Lu-165	3.5	β^+	10.733 m	0.93		3.5200E+05	1.3053E+06	6
1537	Lu-166	6.0	β^+	2.650 m	3.77		3.3300E+05	2.1500E+06	6
1538	Lu-166m	3.0	β^+:58.0;IT:42.0	1.417 m	7.06		4.7000E+04	8.7000E+05	6
1539	Lu-166n	0.0	β^+	2.117 m	4.72		4.7900E+05	2.1000E+06	6
1540	Lu-167	3.5	β^+	51.500 m	1.94		1.0233E+06	9.2400E+05	6
1541	Lu-168	6.0	β^+	5.500 m	1.82		2.7100E+05	4.4000E+06	6
1542	Lu-168m	3.0	β^+	6.700 m	5.97		1.7600E+05	2.2700E+06	6
1543	Lu-169	3.5	β^+	1.419 d	0.15		4.1000E+04	1.2140E+06	6
1544	Lu-169m	0.5	IT	2.667 m	6.25		2.1800E+04	1.4200E+03	6
1545	Lu-170	0.0	β^+	2.002 d	1.73		5.3000E+04	2.5200E+06	6
1546	Lu-170m	4.0	IT	0.670 s	14.93		7.6200E+04	3.6000E+03	6
1547	Lu-171	3.5	β^+	8.250 d	0.36		8.8330E+04	6.4130E+05	2
1548	Lu-171m	0.5	IT	1.300 m	2.56		6.9435E+04	1.7866E+03	2
1549	Lu-172	4.0	β^+	6.700 d	0.15		1.1138E+05	1.9552E+06	2
1550	Lu-172m	1.0	IT	3.700 m	13.51		4.0205E+04	1.6674E+03	2
1551	Lu-173	3.5	β^+	1.336 y	2.66		4.6178E+04	1.7016E+05	2
1552	Lu-174	1.0	β^+	3.559 y	11.54		4.4819E+04	1.1667E+05	2
1553	Lu-174m	6.0	β^+:0.58;IT:99.42	142.000 d	2.11		1.1685E+05	6.1667E+04	2
1554	Lu-175	3.5							1
1555	Lu-176	7.0	β^-	3.61E+10 y	4.39		2.9200E+05	4.9000E+05	6
1556	Lu-176m	1.0	β^-	3.681 h	0.30		4.7500E+05	1.4300E+04	6
1557	Lu-177	3.5	β^-	6.700 d	0.30		1.4742E+05	3.6862E+04	2
1558	Lu-177m	11.5	β_m^-:77.4; IT_g:22.6	160.300 d	0.25		8.2076E+04	1.6777E+05	2
1559	Lu-178	1.0	β^-	28.400 m	0.70		7.2000E+05	1.4400E+05	6
1560	Lu-178m	9.0	β^-	23.100 m	1.30		4.9000E+05	1.0520E+06	6
1561	Lu-179	3.5	β^-	4.589 h	1.33		4.6000E+05	3.0000E+04	6
1562	Lu-180	?	β^-	5.700 m	1.75		6.3000E+05	1.5120E+06	6
1563	Lu-181	3.5	β^-	3.500 m	8.57		8.9000E+04	5.6000E+05	6
1564	Lu-182	?	β^-	2.000 m	10.00		1.5900E+05	2.0600E+06	6
+1565	Lu-183	3.5	β^-	58.000 s	6.90		1.1200E+06	7.0000E+05	6
+1566	Lu-184	3.0	β_g^-:50.0; β_m^-:50.0	20.000 s	0.00		1.5646E+06	1.5646E+06	8
+1567	Hf-163	?	β^+	40.000 s	1.50		3.1000E+05	7.3000E+05	6
+1568	Hf-164	0.0	β^+	2.800 m	7.14		9.6666E+05	9.6666E+05	6
+1569	Hf-165	5.5	β^+	1.700 m	5.88		1.5767E+06	3.9120E+05	6
+1570	Hf-166	0.0	β^+	6.767 m	4.43		6.3200E+04	2.8200E+05	6
+1571	Hf-167	2.5	β^+	2.050 m	2.44		5.8770E+05	6.8279E+05	6
1572	Hf-168	0.0	β^+	25.950 m	0.77			4.3000E+05	9
1573	Hf-169	2.5	β^+	3.240 m	1.23		5.0000E+05	1.1000E+06	6
1574	Hf-170	0.0	β^+	16.000 h	0.87		6.7500E+04	4.9545E+05	6
1575	Hf-171	3.5	β^+	12.111 h	3.44		1.3400E+06	7.9999E+05	6
1576	Hf-172	0.0	β^+	1.870 y	1.69		1.0200E+05	1.1000E+05	6
1577	Hf-173	0.5	β^+	23.900 h	1.26		5.2050E+04	3.9661E+05	2
1578	Hf-174	0.0	α	2.00E+15 y	20.00	2.5036E+06			2
1579	Hf-175	2.5	β^+	70.000 d	1.43		4.5512E+04	3.6299E+05	2
1580	Hf-176	0.0							1
1581	Hf-177	3.5							1
1582	Hf-177m	11.5	IT	1.080 s	5.56		2.4072E+05	1.0680E+06	2
1583	Hf-177n	18.5	IT_m	51.400 m	0.97		2.5154E+05	1.1773E+06	2
1584	Hf-178	0.0							1
1585	Hf-178m	8.0	IT	4.000 s	7.50		1.4152E+05	1.0059E+06	2
1586	Hf-178n	16.0	IT_m	31.001 y	3.23		7.3620E+04	1.2231E+06	2
1587	Hf-179	4.5							1
1588	Hf-179m	0.5	IT	18.670 s	0.16		1.2100E+05	2.3700E+05	6
1589	Hf-179n	12.5	IT	25.116 d	1.38		1.7000E+05	9.2700E+05	6
1590	Hf-180	0.0							1
1591	Hf-180m	8.0	β_m^-:0.31; IT_g:99.69	5.500 h	1.82		1.4858E+05	9.9243E+05	2
1592	Hf-181	0.5	β^-	42.380 d	0.14		2.0439E+05	5.3054E+05	2
1593	Hf-182	0.0	β^-	8.99E+06 y	33.33		7.1668E+04	2.1222E+05	7
1594	Hf-182m	8.0	β^-:54.0;IT:46.0	1.025 h	2.44		2.0404E+05	9.8045E+05	7
1595	Hf-183	1.5	β^-	1.067 h	1.82		4.2000E+05	7.7000E+05	6
1596	Hf-184	0.0	β^-	4.119 h	1.21		4.5000E+05	2.5000E+05	6
+1597	Hf-184m	8.0	β^-	48.000 s	0.00		8.7080E+05	8.7080E+05	8
1598	Hf-185	?	β^-	3.500 m	17.14		2.0000E+06	2.0000E+06	13
1599	Hf-186	?	β^-	2.267 m	50.00		4.7300E+05	4.7300E+05	13

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
1600	Hf-187	?	β^-	1.733 m	48.08		1.1930E+06	1.1930E+06	13
1601	Ta-170	3.0	β^+	6.767 m	0.99		1.4200E+06	1.0200E+06	6
1602	Ta-171	2.5	β^+	23.300 m	1.29		1.3000E+05	1.9000E+06	6
1603	Ta-172	3.0	β^+	36.800 m	0.82		4.6200E+05	1.8500E+06	6
1604	Ta-173	2.5	β^+	3.139 h	4.42		1.2500E+05	5.3600E+05	6
1605	Ta-174	3.0	β^+	1.181 h	4.24		3.7000E+05	9.1000E+05	6
1606	Ta-175	3.5	β^+	10.500 h	2.12		4.7600E+04	8.4189E+05	6
1607	Ta-176	1.0	β^+	8.083 h	1.03		6.3000E+04	2.1400E+06	6
1608	Ta-177	3.5	β^+	2.350 d	0.89		2.2724E+04	6.7752E+04	2
1609	Ta-178	1.0	β^+	9.310 m	0.32		3.3000E+04	1.2000E+05	6
1610	Ta-178m	7.0	β^+	2.361 h	3.53		1.5260E+05	1.1540E+06	6
1611	Ta-179	3.5	β^+	1.610 y	1.70		7.3952E+03	2.9246E+04	2
1612	Ta-180	1.0	β^-:18.1;β^+:81.9	8.080 h	0.62		6.4058E+04	4.5930E+04	2
1613	Ta-180m	9.0	β^-:20.0;β^+:80.0	1.80E+15 y	33.33		1.2585E+05	5.6252E+05	2
1614	Ta-181	3.5							1
1615	Ta-182	3.0	β^-	114.700 d	0.35		2.1634E+05	1.2833E+06	2
1616	Ta-182m	5.0	IT	0.283 s	1.06		1.4319E+04	1.9174E+03	2
1617	Ta-182n	10.0	IT_m	15.840 m	0.63		2.4438E+05	2.5464E+05	2
1618	Ta-183	3.5	β_g^-:96.6; β_m^-:3.4	5.090 d	1.38		3.4936E+05	2.8664E+05	2
1619	Ta-184	?	β^-	8.700 h	1.15		5.0202E+05	1.6439E+06	6
1620	Ta-185	3.5	β^-	49.000 m	4.08		7.7596E+05	1.6459E+05	6
1621	Ta-186	?	β^-	10.500 m	4.76		8.8000E+05	1.3700E+06	6
1622	Ta-187	?	β^-	1.000 s	90.00		2.0000E+06	2.0000E+06	13
1623	Ta-188	?	β^-	1.000 s	90.00		2.0000E+06	2.0000E+06	13
+1624	Ta-189	?	β^-	34.700 s	10.09		1.2133E+06	1.2133E+06	16
+1625	Ta-190	?	β^-	1.510 s	33.11		1.8600E+06	1.8600E+06	16
+1626	W-171	2.5	β^+	2.380 m	0.00		1.5523E+06	1.5523E+06	8
1627	W-172	0.0	β^+	6.667 m	15.00		1.1600E+05	7.9000E+05	6
1628	W-173	?	β^+	7.967 m	3.56			1.6700E+05	9
1629	W-174	3.0	β^+	29.333 m	3.41		5.6666E+05	5.6666E+05	6
1630	W-175	0.5	β^+	34.000 m	2.94		9.9999E+05	9.9999E+05	6
>1631	W-176	0.0	β^+	2.500 h	4.00		5.7297E+04	1.7153E+05	5
1632	W-177	0.5	β^+	2.250 h	2.22		7.5900E+04	9.0800E+05	6
1633	W-178	0.0	β^+	21.600 d	1.39		6.9949E+03	1.9164E+04	2
1634	W-179	3.5	β^+	37.500 m	1.33		5.5000E+03	5.3600E+04	6
1635	W-179m	0.5	β^+:0.28;IT:99.72	6.400 m	1.56		1.5800E+05	2.0900E+04	6
1636	W-180	0.0							1
1637	W-181	4.5	β^+	120.980 d	0.10		1.2682E+04	4.1206E+04	2
1638	W-182	0.0							1
1639	W-183	0.5							1
1640	W-183m	5.5	IT	5.250 s	1.33		1.8399E+05	1.2539E+05	2
1641	W-184	0.0							1
1642	W-185	1.5	β^-	75.100 d	0.40		1.2680E+05	5.0160E+01	2
1643	W-185m	5.5	IT	1.667 m	2.00		1.7199E+05	2.5739E+04	2
1644	W-186	0.0							1
1645	W-187	1.5	β^-	23.850 h	0.34		3.0126E+05	4.4210E+05	2
1646	W-188	0.0	β^-	69.444 d	0.83		9.9600E+04	1.8900E+03	6
1647	W-189	1.5	β^-	11.500 m	2.61		8.3333E+05	1.2300E+06	6
1648	W-190	0.0	β^-	30.000 m	5.00		4.7000E+05	1.5000E+05	6
1649	W-191	?	β^-	1.000 s	90.00		2.0000E+06	2.0000E+06	13
1650	W-192	?	β^-	1.280 m	52.08		5.9300E+05	5.9300E+05	13
1651	W-193	?	β^-	1.700 m	49.02		1.1870E+06	1.1870E+06	13
+1652	W-194	?	β^-	24.430 s	204.67		1.0200E+06	1.0200E+06	16
+1653	Re-174	?	β^+	2.300 m	4.35		2.1667E+06	5.0000E+05	6
+1654	Re-175	2.5	β^+	5.890 m	0.00		1.4353E+06	1.4353E+06	8
+1655	Re-176	3.0	β^+	5.667 m	14.71		1.8667E+06	2.9900E+05	6
+1656	Re-177	2.5	β^+	14.000 m	7.14		3.1200E+05	5.7233E+05	6
1657	Re-178	3.0	β^+	13.200 m	1.52		5.5000E+05	1.6600E+06	6
1658	Re-179	2.5	β^+	19.500 m	0.51		5.5900E+04	1.0740E+06	6
1659	Re-180	1.0	β^+	2.433 m	2.74		1.3300E+05	1.1700E+06	6
1660	Re-181	2.5	β^+	20.000 h	4.17		1.2800E+05	8.1000E+05	6
1661	Re-182	7.0	β^+	2.667 d	0.78		1.9000E+05	1.8000E+06	6
1662	Re-182m	2.0	β^+	12.694 h	1.75		8.2000E+04	1.2100E+06	6
1663	Re-183	2.5	β^+	70.023 d	1.65		9.7000E+04	1.5670E+05	6
1664	Re-184	3.0	β^+	37.963 d	1.52		4.9000E+04	8.9200E+05	6
1665	Re-184m	8.0	β^+:25.3;IT:74.7	165.509 d	3.50		1.3050E+05	3.8900E+05	6
1666	Re-185	2.5							1
1667	Re-186	1.0	β^-:93.1;β^+:6.9	3.777 d	0.12		3.3830E+05	1.7500E+04	6
1668	Re-186m	8.0	IT	2.00E+05 y	25.40		6.8200E+04	6.0000E+04	6
1669	Re-187	2.5	β^-	5.00E+10 y	16.01		6.6000E+02		13
1670	Re-188	1.0	β^-	16.981 h	0.13		7.8000E+05	5.7700E+04	6

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
1671	Re-188m	6.0	IT	18.600 m	0.54		8.2000E+04	7.4000E+04	6
1672	Re-189	2.5	β^-	1.013 d	1.68		3.2000E+05	6.0000E+04	13
1673	Re-190	2.0	β^-	3.100 m	9.68		7.1000E+05	1.3500E+06	6
1674	Re-190m	6.0	β^-:54.5;IT:45.5	3.194 h	6.96		2.9500E+05	9.2200E+05	6
1675	Re-191	1.5	β^-	9.700 m	4.12		7.2698E+05	2.2291E+03	2
1676	Re-192	1.0	β^-	6.200 s	12.90		1.6379E+06	1.5906E+05	2
1677	Re-193	?	β^-	1.000 s	90.00		2.0000E+06	2.0000E+06	13
1678	Re-194	?	β^-	1.000 s	90.00		2.0000E+06	2.0000E+06	13
1679	Re-195	?	β^-	10.200 s	49.02		1.1900E+06	1.1900E+06	13
+1680	Re-196	?	β^-	3.970 s	10.08		1.8767E+06	1.8767E+06	16
+1681	Re-197	?	β^-	4.870 s	10.27		1.4767E+06	1.4767E+06	16
+1682	Re-198	?	β^-	2.280 s	13.16		2.1267E+06	2.1267E+06	16
+1683	Os-175	2.5	β^+	1.400 m	0.00		1.7657E+06	1.7657E+06	8
+1684	Os-176	0.0	β^+	3.000 m	27.78		9.6666E+05	9.6666E+05	6
+1685	Os-177	0.5	β^+	2.800 m	0.00		1.4827E+06	1.4827E+06	8
+1686	Os-178	0.0	β^+	5.000 m	0.00		7.7536E+05	7.7536E+05	8
+1687	Os-179	0.5	β^+	6.500 m	4.62		1.2033E+06	1.2033E+06	6
>1688	Os-180	0.0	β^+	21.500 m	1.86		2.3824E+04	1.3678E+05	5
1689	Os-181	3.5	β^+	2.700 m	3.70		7.2000E+04	3.7400E+05	6
1690	Os-181m	0.5	β^+	1.750 h	2.86		8.4000E+04	1.3800E+06	6
1691	Os-182	0.0	β^+	22.111 h	1.13		4.8100E+04	4.6148E+05	6
1692	Os-183	4.5	β^+	13.000 h	3.85		7.2600E+04	6.3200E+05	6
1693	Os-183m	0.5	β^+:85.0;IT:15.0	9.889 h	3.09		3.6000E+04	9.9900E+05	6
1694	Os-184	0.0							1
1695	Os-185	0.5	β^+	93.800 d	0.96		1.8331E+04	7.1903E+05	2
1696	Os-186	0.0	α	1.90E+15 y	66.67	2.8170E+06			6
1697	Os-187	0.5							1
1698	Os-188	0.0							1
1699	Os-189	1.5							1
1700	Os-189m	4.5	IT	4.806 h	2.31		2.4260E+04	2.0100E+03	6
1701	Os-190	0.0							1
1702	Os-190m	10.0	IT	9.900 m	4.04		1.1685E+05	1.5885E+06	2
1703	Os-191	4.5	β^-	15.405 d	0.68		8.5000E+04	4.0000E+04	6
1704	Os-191m	1.5	IT	13.100 h	0.76		6.6486E+04	7.8554E+03	2
1705	Os-192	0.0							1
1706	Os-192m	10.0	IT	5.900 s	1.69		1.6100E+05	1.8800E+06	6
1707	Os-193	1.5	β^-	1.271 d	1.37		3.7600E+05	6.7100E+04	6
1708	Os-194	0.0	β^-	5.989 y	3.70		3.2333E+04	2.3000E+03	6
1709	Os-195	0.5	β^-	6.500 m	9.23		7.1526E+05	1.4223E+05	2
>1710	Os-196	0.0	β^-	34.900 m	0.57		3.7256E+05	7.7034E+04	5
1711	Os-197	?	β^-	3.410 s	49.85		7.1700E+05	7.1700E+05	13
1712	Os-198	?	β^-	32.900 s	51.67		3.6000E+05	3.6000E+05	13
1713	Os-199	?	β^-	36.600 s	51.91		1.1430E+06	1.1430E+06	13
+1714	Os-200	?	β^-	16.000 s	12.50		8.6667E+05	8.6667E+05	16
+1715	Os-201	?	β^-	9.440 s	21.19		1.4133E+06	1.4133E+06	16
+1716	Ir-178	?	β^+	12.000 s	16.67		2.4333E+06	1.3800E+06	6
+1717	Ir-179	2.5	β^+	1.317 m	0.00		1.6140E+06	1.6140E+06	8
+1718	Ir-180	?	β^+	1.500 m	6.67		2.1333E+06	1.6400E+06	6
+1719	Ir-181	3.5	β^+	4.900 m	3.06		4.1000E+05	1.3333E+06	6
1720	Ir-182	5.0	β^+	15.000 m	6.67		7.8000E+04	8.1900E+05	6
1721	Ir-183	3.5	β^+	55.000 m	15.15		6.1000E+05	2.7392E+06	6
1722	Ir-184	5.0	β^+	3.019 h	2.02		2.2700E+05	1.7225E+06	6
1723	Ir-185	2.5	β^+	13.889 h	8.00		8.3333E+05	8.3333E+05	6
1724	Ir-186	5.0	β^+	16.639 h	0.18		1.2800E+05	1.6200E+06	6
1725	Ir-186m	2.0	β^+	2.000 h	5.56		1.2000E+05	1.4300E+06	6
1726	Ir-187	1.5	β^+	10.500 h	2.86		6.3789E+04	3.0151E+05	2
1727	Ir-188	2.0	β^+	1.729 d	1.20		4.1600E+04	2.1000E+06	6
1728	Ir-189	1.5	β^+	13.194 d	0.76		3.7500E+04	8.2836E+04	13
1729	Ir-190	4.0	β^+	12.000 d	1.67		7.2110E+04	1.4781E+06	2
1730	Ir-190m	1.0	IT	1.120 h	0.27		2.3839E+04	2.2832E+03	2
1731	Ir-190n	11.0	IT_g:8.6; β_m^+:91.4	3.087 h	0.39		2.8879E+04	5.8873E+04	2
1732	Ir-191	1.5							1
1733	Ir-191m	5.5	IT	4.900 s	0.41		9.7091E+04	7.5475E+04	2
1734	Ir-191n	13.5	IT_m	5.500 s	12.73		4.5764E+04	1.8681E+06	2
>1735	Ir-192	4.0	β^-:95.2;β^+:4.8	73.822 d	0.01		2.1729E+05	8.1648E+05	5
>1736	Ir-192m	1.0	β^-:0.02;IT:99.98	1.440 m	4.86		5.4434E+04	2.4385E+03	5
>1737	Ir-192n	11.0	IT	241.000 y	3.73		1.6504E+05	3.0859E+03	5
1738	Ir-193	1.5							1
1739	Ir-193m	5.5	IT	10.602 d	1.09		7.3300E+04	2.4100E+03	6
1740	Ir-194	1.0	β^-	19.150 h	0.16		8.1000E+05	9.1000E+04	6
1741	Ir-194m	11.0	β^-	171.296 d	6.76		8.2900E+04	2.3300E+06	7
1742	Ir-195	1.5	β^-	2.500 h	8.89		3.8000E+05	5.8000E+04	6

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
1743	Ir-195m	5.5	β^-:95.0;IT:5.0	3.806 h	5.84		3.4400E+05	4.0900E+05	6
1744	Ir-196	0.0	β^-	52.000 s	3.85		1.1700E+06	2.3300E+05	6
1745	Ir-196m	11.0	β^-	1.400 h	1.59		4.5000E+05	2.4700E+06	7
1746	Ir-197	1.5	β^-	5.800 m	8.62		7.3337E+05	2.2379E+05	2
1747	Ir-197m	5.5	β_m^-:99.75; IT_g:0.25	8.900 m	3.37		6.8001E+05	2.0424E+03	2
1748	Ir-198	?	β^-	8.000 s	12.50		1.3333E+06	8.2000E+05	6
1749	Ir-199	?	β^-	50.700 s	49.31		7.0000E+05	7.0000E+05	13
1750	Ir-200	?	β^-	5.190 s	50.10		1.2780E+06	1.2780E+06	13
+1751	Ir-201	?	β^-	18.500 s	10.81		1.2567E+06	1.2567E+06	16
+1752	Ir-202	?	β^-	8.500 s	17.65		1.8133E+06	1.8133E+06	16
+1753	Pt-181	0.5	β^+:99.94;α:0.06	51.000 s	9.80	1.6854E+06			6
+1754	Pt-182	0.0	β^+:99.98;α:0.02	2.600 m	3.85	9.6700E+02		1.8255E+05	6
+1755	Pt-183	0.5	β^+:100.0;α:~	6.500 m	15.38	6.1500E+01			16
+1756	Pt-183m	3.5	β^+	43.000 s	11.63		6.8000E+04	1.1700E+06	6
1757	Pt-184	0.0	β^+:100.0;α:~	17.300 m	1.16	4.4900E+01		1.8157E+06	6
1758	Pt-185	4.5	β^+	1.183 h	3.38		1.2667E+06	2.5400E+06	13
1759	Pt-185m	0.5	β^+	33.000 m	2.53		3.7800E+05	3.1100E+06	9
1760	Pt-186	0.0	β^+:100.0;α:~	2.000 h	5.56	5.9200E+00	1.8500E+04	6.5200E+05	6
1761	Pt-187	1.5	β^+	2.350 h	1.30		9.6666E+05	9.6666E+05	6
1762	Pt-188	0.0	β^+:99.99;α:0.01	10.185 d	3.41	3.9190E+06	7.4700E+04	1.9483E+05	6
1763	Pt-189	1.5	β^+	10.889 h	1.02		6.1000E+04	2.9600E+05	6
1764	Pt-190	0.0	α	6.59E+11 y	4.81	3.2000E+06			6
1765	Pt-191	1.5	β^+	2.905 d	3.59		6.3300E+04	2.7200E+05	6
1766	Pt-192	0.0							1
1767	Pt-193	0.5	β^+	50.001 y	18.00		7.8562E+03	3.3781E+04	2
1768	Pt-193m	6.5	IT	4.340 d	0.69		1.3796E+05	1.2333E+04	2
1769	Pt-194	0.0							1
1770	Pt-195	0.5							1
1771	Pt-195m	6.5	IT	4.020 d	0.26		1.6900E+05	7.6000E+04	6
1772	Pt-196	0.0							1
1773	Pt-197	0.5	β^-	19.892 h	0.01		2.5443E+05	2.4381E+04	2
1774	Pt-197m	6.5	β_m^-:3.3; IT_g:96.7	1.588 h	0.21		3.1694E+05	7.6079E+04	2
1775	Pt-198	0.0							1
1776	Pt-199	2.5	β^-	30.800 m	1.30		5.4000E+05	2.0100E+05	6
1777	Pt-199m	6.5	IT	13.600 s	2.94		7.6000E+04	3.4050E+05	6
1778	Pt-200	0.0	β^-	12.500 h	2.44		2.4100E+05	5.7059E+04	6
1779	Pt-201	2.5	β^-	2.500 m	4.00		6.5700E+05	8.8666E+05	6
>1780	Pt-202	0.0	β^-	1.833 d	34.09		6.5892E+05	1.9270E+03	5
+1781	Pt-203	?	β^-	41.100 s	10.00		9.3000E+05	9.3000E+05	16
+1782	Au-185	?	β^+	4.333 m	19.23		1.5833E+06	1.5833E+06	6
+1783	Au-186	3.0	β^+	10.667 m	4.69		1.1700E+06	2.0300E+06	6
1784	Au-187	0.5	β^+:99.9;α:0.1	8.400 m	3.57	1.3102E+06	2.9900E+06	1.5768E+06	6
1785	Au-187m	4.5	IT	2.300 s	4.35			1.2051E+05	13
1786	Au-188	1.0	β^+	8.833 m	0.75		4.2000E+04	2.0500E+06	6
1787	Au-189	0.5	β^+	28.700 m	1.05		8.0000E+04	8.4000E+05	13
1788	Au-189m	5.5	β^+	4.590 m	0.22		1.0324E+06	2.0770E+05	6
1789	Au-190	1.0	β^+	42.833 m	2.33		3.0000E+04	1.9900E+06	6
1790	Au-191	1.5	β^+	3.167 h	2.63		7.1900E+04	5.8700E+05	6
1791	Au-191m	5.5	IT	0.920 s	11.96		5.5000E+04	1.9000E+05	6
1792	Au-192	1.0	β^+	4.944 h	2.25		8.2000E+04	1.9000E+06	6
>1793	Au-192m	11.0	IT	0.160 s	12.50		2.8757E+05	1.4355E+05	5
1794	Au-193	1.5	β^+	17.639 h	0.94		4.8700E+04	1.3715E+05	6
1795	Au-193m	5.5	β^+:0.03;IT:99.97	3.900 s	7.69		8.3000E+04	1.6348E+05	6
1796	Au-194	1.0	β^+	1.584 d	0.29		3.5400E+04	1.0150E+06	6
1797	Au-194m	5.0	IT	0.600 s	1.33			3.2000E+03	6
1798	Au-194n	11.0	IT	0.420 s	2.38			1.2100E+05	6
1799	Au-195	1.5	β^+	186.090 d	0.01		4.2000E+04	8.6700E+04	6
1800	Au-195m	5.5	IT	30.500 s	0.66		1.1080E+05	2.0120E+05	6
1801	Au-196	2.0	β^-:7.5;β^+:92.5	6.183 d	0.17		3.2500E+04	4.7500E+05	6
1802	Au-196m	5.0	IT	8.100 s	2.47		7.7000E+04	2.9000E+03	6
1803	Au-196n	12.0	IT	9.694 h	1.15		3.7000E+05	2.4000E+05	6
1804	Au-197	1.5							1
1805	Au-197m	5.5	IT	7.740 s	0.90		1.8382E+05	2.2544E+05	2
1806	Au-198	2.0	β^-	2.694 d	0.03		3.2734E+05	4.0289E+05	2
1807	Au-198m	12.0	IT	2.300 d	1.74		2.6208E+05	5.2782E+05	2
1808	Au-199	1.5	β^-	3.139 d	0.22		1.4508E+05	9.6067E+04	2
1809	Au-200	1.0	β^-	48.400 m	0.62		7.4000E+05	2.7300E+05	6
1810	Au-200m	12.0	β^-:82.0;IT:18.0	18.694 h	2.67		2.5000E+05	1.9800E+06	6
1811	Au-201	1.5	β^-	26.000 m	3.85		4.2400E+05	3.4000E+04	6
1812	Au-202	1.0	β^-	28.800 s	6.60		1.2400E+06	1.5192E+05	6
1813	Au-203	1.5	β^-	53.000 s	3.77		7.1333E+05	6.9000E+04	6
1814	Au-204	2.0	β^-	39.800 s	2.26		8.3000E+05	1.9025E+06	6

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+1815	Au-205	1.5	β^-	31.000 s	0.00		1.1035E+06	1.1035E+06	16
+1816	Au-206	?	β^-	1.590 s	31.45		2.1933E+06	2.1933E+06	16
+1817	Hg-186	0.0	β^+:99.98;α:0.02	1.383 m	6.02	8.1500E+02	1.3000E+05	4.1000E+05	6
+1818	Hg-187	6.5	β^+:99.99;α:0.01	2.400 m	12.50	1.6071E+06		4.0458E+06	6
+1819	Hg-187m	1.5	β^+:100.0;α:~	1.900 m	15.79	1.2590E+01			6
+1820	Hg-188	0.0	β^+:99.99;α:0.01	3.250 m	4.62	4.6100E+06		6.4577E+05	6
+1821	Hg-189	1.5	β^+:99.9;α:0.1	7.600 m	0.00	1.3198E+06	6.8000E+05	3.1130E+06	6
+1822	Hg-189m	6.5	β^+	8.700 m	0.00		9.2000E+05	1.3170E+06	6
1823	Hg-190	0.0	β^+	20.000 m	2.00		6.8071E+04	2.0438E+05	2
1824	Hg-191	1.5	β^+	48.333 m	20.69		1.0600E+06	4.3796E+05	6
1825	Hg-191m	6.5	β^+	50.833 m	2.95		1.0100E+05	1.4500E+06	6
1826	Hg-192	0.0	β^+	4.861 h	4.57		5.7300E+04	2.5375E+05	6
1827	Hg-193	1.5	β^+	3.806 h	4.38		7.7999E+05	7.7999E+05	6
1828	Hg-193m	6.5	β^+:92.0;IT:8.0	11.806 h	1.88		1.1900E+05	1.1177E+06	6
1829	Hg-194	0.0	β^+	519.696 y	6.10		2.8000E+03	2.1000E+03	6
1830	Hg-195	0.5	β^+	9.889 h	5.06		5.5000E+04	1.9900E+05	6
1831	Hg-195m	6.5	β^+:45.8;IT:54.2	1.736 d	2.00		1.3300E+05	2.0400E+05	6
1832	Hg-196	0.0							1
1833	Hg-197	0.5	β^+	2.692 d	0.93		6.9155E+04	7.3506E+04	2
1834	Hg-197m	6.5	β_m^+:8.6; IT_g:91.4	23.900 h	2.09		2.0056E+05	7.7979E+04	2
1835	Hg-198	0.0							1
1836	Hg-199	0.5							1
1837	Hg-199m	6.5	IT	42.100 m	2.14		3.4770E+05	1.8457E+05	2
1838	Hg-200	0.0							1
1839	Hg-201	1.5							1
1840	Hg-202	0.0							1
1841	Hg-203	2.5	β^-	46.595 d	0.03		9.9110E+04	2.3774E+05	2
1842	Hg-204	0.0							1
1843	Hg-205	0.5	β^-	5.200 m	1.92		5.3624E+05	6.8864E+03	2
1844	Hg-206	0.0	β^-	8.150 m	1.23		4.2324E+05	1.0661E+05	4
1845	Hg-207	4.5	β^-	2.900 m	6.90		1.5933E+06	2.7200E+06	6
1846	Hg-208	0.0	β^-	42.000 m	42.86		1.0610E+06	1.0610E+06	13
1847	Hg-209	?	β^-	56.300 s	49.73		1.5210E+06	1.5210E+06	13
+1848	Tl-192	7.0	β^+	10.800 m	1.85		4.3500E+04	2.0000E+06	6
1849	Tl-193	0.5	β^+	21.800 m	3.21		9.4344E+04	5.5590E+05	2
1850	Tl-193m	4.5	β^+:25.0;IT:75.0	2.110 m	7.11		1.0918E+05	3.6346E+05	2
1851	Tl-194	2.0	β^+	33.000 m	1.52		1.9000E+04	7.1000E+05	6
1852	Tl-194m	7.0	β^+	32.800 m	0.61		2.7000E+05	2.5100E+06	6
1853	Tl-195	0.5	β^+	1.161 h	4.31		4.9500E+04	1.1900E+06	6
1854	Tl-195m	4.5	IT	3.600 s	11.11		1.1700E+05	3.6000E+05	6
1855	Tl-196	2.0	β^+	1.839 h	1.66		2.9000E+05	1.7900E+06	6
1856	Tl-196m	7.0	β^+:95.5;IT:4.5	1.411 h	1.57		2.7800E+04	1.1300E+06	6
1857	Tl-197	0.5	β^+	2.839 h	1.47		5.1000E+04	4.1586E+05	6
1858	Tl-197m	4.5	IT	0.540 s	1.85		1.6900E+05	4.3500E+05	6
1859	Tl-198	2.0	β^+	5.306 h	9.42		1.1300E+04	2.0000E+06	6
1860	Tl-198m	7.0	β^+:54.0;IT:46.0	1.869 h	1.63		1.3300E+05	1.2000E+06	6
1861	Tl-199	0.5	β^+	7.417 h	1.12		5.2800E+04	2.4900E+05	6
1862	Tl-200	2.0	β^+	1.088 d	0.43		3.5800E+04	1.3100E+06	6
1863	Tl-201	0.5	β^+	3.041 d	0.07		4.4079E+04	9.5411E+04	2
1864	Tl-202	2.0	β^+	12.240 d	0.25		2.2508E+04	4.6654E+05	2
1865	Tl-203	0.5							1
1866	Tl-204	2.0	β^-:97.8;β^+:2.2	3.790 y	0.26		2.3621E+05	1.0582E+03	2
1867	Tl-205	0.5							1
1868	Tl-206	0.0	β^-	4.200 m	0.48		5.3697E+05	1.4124E+03	4
1869	Tl-206m	12.0	IT	3.760 m	1.06		1.5329E+05	2.4895E+06	4
1870	Tl-207	0.5	β^-	4.770 m	0.63		4.9135E+05	3.3412E+03	4
1871	Tl-207m	5.5	IT	1.330 s	8.27		1.8370E+05	1.1574E+06	4
1872	Tl-208	5.0	β^-	3.055 m	0.23		5.9355E+05	3.3852E+06	4
1873	Tl-209	0.5	β^-	2.200 m	3.18		6.8491E+05	2.1222E+06	4
1874	Tl-210	5.0	β^-:100.0;β^-,n:~	1.300 m	2.31		7.6257E+05	2.7859E+06	4
+1875	Pb-193	6.5	β^+	5.800 m	3.45		1.6500E+06	5.9600E+05	6
+1876	Pb-194	0.0	β^+:100.0;α:~	12.000 m	4.17	3.3870E-01	7.4100E+04	1.0680E+06	6
1877	Pb-195	1.5	β^+	15.000 m	33.33		1.0100E+03	2.9500E+05	13
1878	Pb-195m	6.5	β^+	15.000 m	8.89		3.0500E+05	1.6800E+06	6
1879	Pb-196	0.0	β^+	37.000 m	8.11		6.9333E+05	8.1309E+05	6
1880	Pb-197	1.5	β^+	10.000 m	20.00		6.0000E+04	1.6800E+06	6
1881	Pb-197m	6.5	β^+:81.0;IT:19.0	44.667 m	2.24		2.3600E+05	1.1700E+06	6
1882	Pb-198	0.0	β^+	2.389 h	4.65		4.9000E+04	4.3000E+05	6
1883	Pb-199	1.5	β^+	1.500 h	11.11		4.0000E+04	1.1480E+06	6
1884	Pb-199m	6.5	β^+:7.0;IT:93.0	12.200 m	2.46		2.7900E+05	1.4830E+05	6
1885	Pb-200	0.0	β^+	21.500 h	1.94		9.0800E+04	2.0800E+05	6

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
1886	Pb-201	2.5	β^+	9.400 h	1.06		5.8285E+04	7.6805E+05	2
1887	Pb-201m	6.5	IT	1.017 m	4.92		2.6219E+05	3.6614E+05	2
1888	Pb-202	0.0	β^+	5.30E+04 y	3.77		9.2832E+03	6.9968E+04	2
1889	Pb-202m	9.0	β^+:9.1;IT:90.9	3.570 h	0.84		1.3845E+05	1.9755E+06	2
1890	Pb-203	2.5	β^+	2.162 d	0.04		5.2334E+04	3.1518E+05	2
1891	Pb-203m	6.5	IT	6.290 s	1.91		1.7121E+05	6.5409E+05	2
1892	Pb-203n	14.5	IT_m	0.480 s	4.17		2.1640E+05	1.9066E+06	2
1893	Pb-204	0.0	α	1.40E+17 y	42.86	1.9717E+06			2
1894	Pb-204m	9.0	IT	1.125 h	0.74		1.0327E+05	2.0807E+06	2
1895	Pb-205	2.5	β^+	1.53E+07 y	4.58		8.9530E+03	5.9294E+04	2
1896	Pb-206	0.0							1
1897	Pb-207	0.5							1
1898	Pb-207m	6.5	IT	0.805 s	1.24			1.6330E+06	6
1899	Pb-208	0.0							1
1900	Pb-209	4.5	β^-	3.253 h	0.43		1.9734E+05		4
1901	Pb-210	0.0	β^-:100.0;α:~	22.300 y	0.90	7.2053E-02	3.9840E+04	5.0429E+03	4
1902	Pb-211	4.5	β^-	36.100 m	0.55		4.4907E+05	6.8454E+04	4
1903	Pb-212	0.0	β^-	10.640 h	0.09		1.7460E+05	1.4456E+05	4
1904	Pb-213	4.5	β^-	10.200 m	2.94		6.9999E+05	6.9999E+05	13
1905	Pb-214	0.0	β^-	26.800 m	3.36		2.9639E+05	2.4642E+05	4
+1906	Bi-196	10.0	β^+	4.667 m	10.71		2.4600E+06	1.7100E+06	6
+1907	Bi-197	4.5	β_m^+:100.0;α_m:~	9.300 m	0.00	5.0175E+00	1.6180E+06	1.6180E+06	16
+1908	Bi-197m	0.5	α:54.84;β^+:44.87	5.040 m	0.00	3.2334E+06	8.4996E+05	8.5149E+05	16
+1909	Bi-198	2.0	β^+	10.300 m	0.00		2.1871E+06	2.1871E+06	16
+1910	Bi-198m	7.0	β^+	11.850 m	1.55		2.1603E+06	1.8980E+06	16
+1911	Bi-198n	10.0	IT	7.700 s	6.49		1.3800E+05	1.0700E+05	16
+1912	Bi-199	4.5	β^+	27.000 m	3.70		1.4400E+06	1.2220E+06	6
+1913	Bi-199m	0.5	β^+:99.99;α:0.01	24.700 m	0.61	5.4840E+02			6
1914	Bi-200	7.0	β^+	36.333 m	1.38		2.0000E+05	2.4000E+06	6
1915	Bi-200m	2.0	β^+	31.000 m	6.45		3.6120E+05	1.5200E+06	6
1916	Bi-201	4.5	β^+	1.800 h	2.78		1.3400E+05	1.8600E+06	6
1917	Bi-201m	0.5	β^+:99.97;α:0.03	59.167 m	1.13	1.3624E+03			6
1918	Bi-202	5.0	β^+	1.669 h	1.33		1.4100E+05	2.7500E+06	6
1919	Bi-203	4.5	β^+:100.0;α:~	11.761 h	0.43	3.9700E-01	6.5100E+04	2.3700E+06	6
1920	Bi-203m	0.5	IT	0.303 s	1.65			9.4000E+05	6
1921	Bi-204	6.0	β^+	11.222 h	0.99		8.0000E+04	3.2100E+06	6
1922	Bi-205	4.5	β^+	15.313 d	0.30		2.3100E+04	1.6910E+06	6
1923	Bi-206	6.0	β^+	6.243 d	0.06		1.2350E+05	3.2790E+06	6
1924	Bi-207	4.5	β^+	31.760 y	6.03		1.1846E+05	1.5395E+06	2
1925	Bi-208	5.0	β^+	3.68E+05 y	1.09		8.5181E+03	2.6573E+06	2
1926	Bi-208m	10.0	IT	0.003 s	50.39		7.2000E+04	1.5000E+06	13
1927	Bi-209	4.5							1
1928	Bi-210	1.0	β^-:100.0;α:~	5.013 d	0.10	6.1792E+00	3.8776E+05	6.7710E+02	4
1929	Bi-210m	9.0	α	3.00E+06 y	3.33	5.0092E+06	4.6943E+04	2.6112E+05	4
1930	Bi-211	4.5	β^-:0.27;α:99.73	2.170 m	1.84	6.6753E+06	1.0061E+04	4.7579E+04	4
1931	Bi-212	1.0	β^-:64.05;β^-,α:0.01	1.009 h	0.10	2.2184E+06	4.9952E+05	1.0847E+05	4
1932	Bi-212m	9.0	β_m^-:10.0;α_g:90.0	25.000 m	4.00	5.8000E+06	4.9248E+04	1.8426E+03	13
1933	Bi-212n	15.0	β_n^-	9.000 m	11.11		1.2569E+06	5.0613E+03	13
1934	Bi-213	4.5	β^-:97.84;α:2.16	45.590 m	0.13	1.2870E+05	4.4436E+05	1.2920E+05	4
1935	Bi-214	1.0	β^-:99.98;α:0.02	19.900 m	2.01	1.1679E+03	6.2855E+05	1.5400E+06	4
1936	Bi-215	4.5	β^-	7.400 m	8.11		7.5067E+05	7.5067E+05	4
1937	Po-202	0.0	β^+:98.0;α:2.0	44.667 m	1.12	1.1174E+05	1.5800E+05	8.4000E+05	6
1938	Po-203	2.5	β^+:99.89;α:0.11	36.667 m	1.36	5.9230E+03	1.4700E+05	1.6300E+06	6
1939	Po-203m	6.5	β^+:4.5;IT:95.5	1.200 m	16.67		2.3600E+05	1.6000E+06	6
1940	Po-204	0.0	β^+:99.34;α:0.66	3.531 h	0.63	3.5488E+04	1.5000E+05	1.1540E+06	6
1941	Po-205	2.5	β^+:99.96;α:0.04	1.661 h	1.34	2.0900E+03	5.3200E+04	1.5900E+06	6
1942	Po-206	0.0	β^+:94.55;α:5.45	8.796 d	1.18	2.8468E+05	1.4100E+05	1.1900E+06	6
1943	Po-207	2.5	β^+:99.98;α:0.02	5.800 h	0.38	1.0733E+03	4.2200E+04	1.2900E+06	6
1944	Po-207m	9.5	IT	2.790 s	2.87		2.8800E+05	1.0880E+06	6
1945	Po-208	0.0	β^+:~;α:100.0	2.930 y	1.37	5.2153E+06	2.8603E+00	1.7210E+01	2
1946	Po-209	0.5	β^+:0.26;α:99.74	102.002 y	4.90	4.9637E+06	4.4429E+02	5.1499E+03	4
1947	Po-210	0.0	α	138.400 d	0.14	5.4076E+06	8.3560E-02	8.8410E+00	4
1948	Po-211	4.5	α	0.516 s	0.58	7.5861E+06	1.5731E+02	7.7474E+03	4
1949	Po-211m	12.5	α	25.500 s	1.18	7.5499E+06	1.0074E+04	1.4899E+06	4
1950	Po-212	0.0	α	3.00E-07 s	0.67	8.9537E+06			4
1951	Po-212m	8.0	IT:87.0;IT,α:7.0	1.42E-08 s	16.90	1.3420E+06	1.2321E+05	1.1211E+06	4
1952	Po-212n	16.0	α	45.100 s	1.33	1.1783E+07	3.7699E+02	9.1232E+04	4
1953	Po-213	4.5	α	4.20E-06 s	19.05	8.5364E+06	7.4905E-01	2.3438E+01	4
1954	Po-214	0.0	α	1.65E-04 s	1.82	7.8335E+06	8.0858E-01	8.3387E+01	4
1955	Po-215	4.5	β^-:~;α:100.0	0.002 s	0.56	7.5260E+06	3.1485E+01	2.1568E+02	4
1956	Po-216	0.0	α	0.145 s	1.38	6.9065E+06		1.4488E+01	4

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
1957	Po-217	?	β^-:5.0;α:95.0	10.000 s	50.00	6.3287E+06			13
1958	Po-218	0.0	β^-:0.02;α:99.98	3.050 m	2.95	6.1136E+06	1.4167E+01	9.2116E+00	4
1959	Po-219	?	β^-	9.170 s	54.53		6.3000E+05	6.3000E+05	13
1960	At-205	4.5	β^+:90.0;α:10.0	26.167 m	1.91	5.9020E+05	1.7000E+05	1.0800E+06	6
1961	At-206	5.0	β^+:99.13;α:0.87	29.333 m	0.45	4.9637E+04	2.9760E+05	2.4700E+06	6
1962	At-207	4.5	β^+:91.3;α:8.7	1.800 h	2.31	5.7580E+05	1.1100E+05	1.9900E+06	6
1963	At-208	6.0	β^+:99.45;α:0.55	1.631 h	1.87	3.1021E+04	1.2340E+05	3.0300E+06	6
1964	At-209	4.5	β^+:95.9;α:4.1	5.411 h	0.92	2.3174E+05	9.6000E+04	2.2840E+06	6
1965	At-210	5.0	β^+:85.08;α:14.92	8.111 h	5.14	9.5581E+05	6.9300E+04	2.9700E+06	6
1966	At-211	4.5	β^+:58.3;α:41.7	7.214 h	0.12	2.4465E+06	2.9800E+03	3.9100E+04	6
1967	At-212	1.0	β^-:~;β^+:0.05	0.315 s	0.95	7.8278E+06			6
1968	At-212m	9.0	IT:~;α:100.0	0.119 s	2.52	8.0183E+06	3.2494E+04	8.8364E+03	6
1969	At-213	4.5	α	1.10E-07 s	18.18	9.2538E+06			6
1970	At-214	1.0	α	5.58E-07 s	1.43	8.9800E+06			13
1971	At-215	4.5	α	1.00E-04 s	20.00	8.1781E+06	1.6514E+01	1.8532E+02	4
1972	At-216	1.0	α	3.00E-04 s	10.00	7.9400E+06			6
1973	At-217	4.5	β^-:0.01;α:99.99	0.032 s	1.24	7.1991E+06	8.2896E+01	2.9991E+02	4
1974	At-218	0.0	β^-:0.1;α:99.9	1.600 s	25.00	6.8117E+06	4.7345E+04	7.4107E+03	4
1975	At-219	2.5	β^-:3.0;α:97.0	54.000 s	11.11	6.1951E+06	1.7861E+04	5.0231E+01	4
1976	At-220	?	β^-	3.730 m	1.07		1.0530E+06	1.0530E+06	13
1977	At-221	?	β^-	2.300 m	8.70		6.3700E+05	6.3700E+05	13
1978	At-222	?	β^-	54.000 s	18.52		1.2930E+06	1.2930E+06	13
1979	Rn-208	0.0	β^+:38.0;α:62.0	24.350 m	0.62	3.8072E+06	8.3000E+04	5.3200E+05	6
1980	Rn-209	2.5	β^+:83.0;α:17.0	28.500 m	3.51	1.0266E+06	4.3500E+04	1.0800E+06	6
1981	Rn-210	0.0	β^+:4.0;α:96.0	2.389 h	4.65	5.7983E+06	8.2000E+03	6.1000E+04	6
1982	Rn-211	0.5	β^+:74.0;α:26.0	14.611 h	1.52	1.5045E+06	5.7100E+04	1.9100E+06	6
1983	Rn-212	0.0	α	24.000 m	8.33	6.3820E+06			6
1984	Rn-213	4.5	α	0.025 s	0.80	8.2373E+06			6
1985	Rn-214	0.0	α	2.70E-07 s	7.41	9.2090E+06			13
1986	Rn-215	4.5	α	2.30E-06 s	4.35	8.8384E+06			6
1987	Rn-216	0.0	α	4.50E-05 s	11.11	8.2010E+06			6
1988	Rn-217	4.5	α	5.40E-04 s	9.26	7.8842E+06	8.3947E+01	1.5336E+02	4
1989	Rn-218	0.0	α	0.035 s	17.14	7.2654E+06	1.3834E+01	7.6932E+02	4
1990	Rn-219	2.5	α	3.960 s	1.26	6.8849E+06	6.6728E+03	5.5288E+04	4
1991	Rn-220	0.0	α	55.600 s	0.18	6.4041E+06		6.9267E+02	4
1992	Rn-221	3.5	β^-:78.0;α:22.0	25.000 m	8.00	1.3424E+06	1.9193E+05	1.0678E+05	6
1993	Rn-222	0.0	α	3.825 d	0.03	5.5901E+06	9.4629E+00	3.5824E+02	4
1994	Rn-223	3.5	β^-	24.200 m	2.89		6.2491E+05	3.3014E+05	2
1995	Rn-224	0.0	β^-	1.783 h	2.80		1.8333E+05	2.4029E+05	15
1996	Rn-225	3.5	β^-	4.500 m	6.67		7.9700E+05	7.9700E+05	13
1997	Fr-218	1.0	α	0.001 s	60.00	7.9520E+06			6
1998	Fr-219	4.5	α	0.021 s	4.76	7.4280E+06			6
1999	Fr-220	?	α	27.400 s	1.09	6.7493E+06		9.3016E+03	6
2000	Fr-221	2.5	α	4.900 m	4.08	6.4714E+06	8.8223E+03	2.9822E+04	4
2001	Fr-222	2.0	β^-	14.400 m	2.78		6.9910E+05	6.7533E+05	6
2002	Fr-223	1.5	β^-:99.99;α:~	21.800 m	1.83	3.2626E+02	3.7910E+05	5.8986E+04	4
2003	Fr-224	1.0	β^-	3.300 m	3.03		8.4000E+05	5.4300E+05	6
2004	Fr-225	?	β^-	3.900 m	5.13		7.0834E+05	5.9999E+05	6
2005	Fr-226	1.0	β^-	48.000 s	2.08		1.1800E+06	4.5500E+05	6
2006	Fr-227	0.5	β^-	2.470 m	8.10		8.0600E+05	8.0600E+05	13
2007	Fr-228	2.0	β^-	39.000 s	2.56		1.1400E+06	9.6400E+05	6
2008	Ra-220	0.0	α	0.023 s	21.74	7.5884E+06		4.6500E+03	6
2009	Ra-221	?	α	28.000 s	7.14	6.5582E+06		4.2922E+04	6
2010	Ra-222	0.0	α	38.000 s	1.32	6.6637E+06	7.0318E+02	9.3370E+03	6
2011	Ra-223	0.5	α	11.430 d	0.17	5.7817E+06	7.4741E+04	1.3429E+05	4
2012	Ra-224	0.0	α	3.620 d	0.28	5.7765E+06	2.2308E+03	1.0058E+04	4
2013	Ra-225	1.5	β^-	14.800 d	1.35		1.0780E+05	1.3827E+04	4
2014	Ra-226	0.0	α	1600.035 y	0.44	4.8608E+06	3.5859E+03	6.7621E+03	4
2015	Ra-227	1.5	β^-	42.200 m	1.18		4.1435E+05	1.6233E+05	6
2016	Ra-228	0.0	β^-	5.750 y	0.52		2.1466E+04	2.0048E+03	4
2017	Ra-229	?	β^-	4.000 m	5.00		5.8666E+05	5.8666E+05	6
2018	Ra-230	0.0	β^-	1.550 h	2.15		3.0000E+05	3.0000E+05	6
2019	Ra-231	3.5	β^-	1.717 m	2.91		8.7300E+05	8.7300E+05	13
2020	Ac-222	1.0	α	4.200 s	11.90	7.1389E+06			7
2021	Ac-222m	4.0	β^+:12.0;α:88.0	1.100 m	4.55	6.1317E+06			7
2022	Ac-223	?	β^+:1.0;α:99.0	2.200 m	4.55	6.7503E+06		3.9472E+03	6
2023	Ac-224	?	β^+:90.0;α:10.0	2.900 h	6.90	6.2176E+05	8.2758E+04	2.6617E+05	6
2024	Ac-225	1.5	α	10.000 d	1.00	5.8684E+06	2.7615E+04	1.7149E+04	4
2025	Ac-226	1.0	β^-:82.8;β^+:17.2	1.208 d	0.34	3.2978E+02	3.2848E+05	2.1279E+05	13
2026	Ac-227	1.5	β^-:98.62;α:1.38	21.773 y	0.01	6.9333E+04	1.4812E+04	5.6237E+02	4
2027	Ac-228	3.0	β^-	6.150 h	0.33		4.4018E+05	9.6325E+05	4

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
2028	Ac-229	1.5	β^-	1.045 h	0.80		3.9083E+05	4.3966E+05	6
2029	Ac-230	1.0	β^-	2.033 m	2.46		9.0000E+05	5.3800E+05	6
2030	Ac-231	?	β^-	7.500 m	1.33		5.7124E+05	1.0851E+06	6
2031	Ac-232	?	β^-	35.000 s	14.29		1.2333E+06	1.2333E+06	6
2032	Ac-233	0.5	β^-	2.417 m	6.90		4.5000E+03	5.0000E+05	9
2033	Ac-234	?	β^-	44.000 s	15.91		1.4330E+06	1.4330E+06	13
2034	Th-224	0.0	α	1.040 s	4.81	7.2604E+06	7.4417E+03	3.3620E+04	6
2035	Th-225	1.5	β^+:10.0;α:90.0	8.000 m	6.25	5.9844E+06		1.2735E+05	6
2036	Th-226	0.0	α	30.900 m	0.32	6.4210E+06	2.2174E+03	2.7782E+04	13
2037	Th-227	1.5	α	18.718 d	0.05	6.0171E+06	4.9306E+04	1.1007E+05	4
2038	Th-228	0.0	α	1.913 y	0.10	5.4946E+06	2.1692E+04	3.2281E+03	2
2039	Th-229	2.5	α	7340.164 y	2.18	4.9470E+06	1.1590E+05	9.0314E+04	4
2040	Th-230	0.0	α:100.0;SF:~	7.54E+04 y	0.40	4.7474E+06	1.2399E+04	1.2765E+03	4
2041	Th-231	2.5	β^-	1.063 d	0.04		1.6494E+05	2.5815E+04	2
2042	Th-232	0.0	α:100.0;SF:~	1.41E+10 y	0.43	4.0774E+06	1.3035E+04	1.2430E+03	4
2043	Th-233	1.5	β^-	22.300 m	0.45		4.1218E+05	3.7495E+04	4
2044	Th-234	0.0	β_m^-	24.090 d	0.12		6.0556E+04	8.8014E+03	4
2045	Th-235	2.5	β^-	6.900 m	2.90		6.4000E+05	6.4000E+05	4
2046	Pa-226	?	α	1.800 m	11.11	6.8967E+06			6
2047	Pa-227	?	β^+:15.0;α:85.0	38.300 m	0.78	5.5658E+06	4.7195E+03	1.4027E+04	6
2048	Pa-228	?	β^+:98.0;α:2.0	22.000 h	4.55	1.2169E+05	5.2611E+04	1.1762E+06	6
2049	Pa-229	2.5	β^+:99.75;α:0.25	1.400 d	28.57	1.4023E+04		9.1695E+05	6
2050	Pa-230	?	β^-:9.5;β^+:90.5	17.400 d	2.87	1.6205E+02	7.0494E+04	6.9875E+05	6
2051	Pa-231	1.5	α:100.0;SF:~	3.28E+04 y	0.34	5.0613E+06	5.2297E+04	3.8726E+04	4
2052	Pa-232	2.0	β^-:100.0;β^+:~	1.310 d	1.53		1.6815E+05	9.3641E+05	4
2053	Pa-233	1.5	β^-	27.000 d	0.37		1.9633E+05	2.1579E+05	4
2054	Pa-234	4.0	β^-	6.780 h	0.44		3.8592E+05	1.4346E+06	4
2055	Pa-234m	0.0	β^-:99.85;IT:0.15	1.170 m	2.56		8.1650E+05	1.9739E+04	4
2056	Pa-235	1.5	β_m^-	24.200 m	1.24		4.6414E+05	9.8675E+03	4
2057	Pa-236	1.0	β^-	9.100 m	2.20		7.4598E+05	4.8292E+05	6
2058	Pa-237	0.5	β^-	8.700 m	2.30		5.6000E+05	6.1000E+05	6
2059	Pa-238	3.0	β^-	2.300 m	4.35		6.5893E+05	1.9894E+06	6
2060	U-228	0.0	β^+:5.0;α:95.0	9.100 m	2.20	6.4479E+06	2.2162E+04	6.4524E+03	6
2061	U-229	1.5	β^+:80.0;α:20.0	58.000 m	5.17	1.2907E+06			6
2062	U-230	0.0	α	20.800 d	9.46	5.9713E+06	1.9904E+04	4.7360E+03	13
2063	U-231	2.5	β^+:99.99;α:~	4.200 d	2.38	2.7756E+02	6.0766E+04	9.4841E+04	6
2064	U-232	0.0	α:100.0;SF:~	69.801 y	0.72	5.3970E+06	1.6844E+04	1.6853E+03	4
2065	U-233	2.5	α	1.59E+05 y	0.13	4.9041E+06	7.5965E+03	1.2254E+03	4
2066	U-234	0.0	α:100.0;SF:~	2.46E+05 y	0.12	4.8420E+06	1.4144E+04	1.4502E+03	4
2067	U-235	3.5	α:100.0;SF:~	7.04E+08 y	0.07	4.4630E+06	4.7537E+04	1.6781E+05	4
2068	U-235m	0.5	IT	26.000 m	7.69		7.6000E+01		4
2069	U-236	0.0	α:100.0;SF:~	2.34E+07 y	0.17	4.5638E+06	1.0102E+04	1.1878E+03	4
2070	U-237	0.5	β^-	6.750 d	0.15		1.9968E+05	1.4338E+05	4
2071	U-238	0.0	α:100.0;SF:~	4.47E+09 y	0.11	4.2600E+06	1.0545E+04	1.2540E+03	4
2072	U-239	2.5	β^-	23.470 m	0.21		4.0991E+05	5.1571E+04	4
2073	U-240	0.0	β^-	14.100 h	1.42		1.4543E+05	9.2581E+03	4
2074	U-241	?	β^-	4.500 m	51.85		7.5300E+05	7.5300E+05	13
2075	U-242	0.0	β^-	16.833 m	2.97		3.0000E+03	4.0000E+04	9
2076	U-243	?	β^-	2.667 m	50.00		9.9000E+05	9.9000E+05	13
2077	U-244	?	β^-	2.617 m	50.96		5.9300E+05	5.9300E+05	13
2078	U-245	?	β^-	11.400 s	52.63		1.2200E+06	1.2200E+06	13
2079	Np-230	?	β^+:97.0;α:3.0	4.600 m	6.52	2.0334E+05			6
2080	Np-231	2.5	β^+:98.0;α:2.0	48.800 m	0.41	1.0192E+05	2.1795E+05	1.1968E+06	6
2081	Np-232	?	β^+	14.700 m	2.04		2.0739E+05	1.2117E+06	6
2082	Np-233	?	β^+:100.0;α:~	36.200 m	0.28	5.6266E+01	2.4998E+04	1.2406E+05	6
2083	Np-234	0.0	β^+	4.398 d	2.37		1.3200E+04	1.1000E+06	6
2084	Np-235	2.5	β^+:100.0;α:~	1.084 y	0.30	7.2220E+01	2.9296E+03	7.1208E+03	6
2085	Np-236	6.0	β^-:11.8;β^+:88.0	1.52E+05 y	1.97	8.1087E+03	2.3960E+05	1.5299E+05	4
2086	Np-236m	1.0	β^-:50.0;β^+:50.0	22.500 h	1.33		9.1412E+04	4.9134E+04	13
2087	Np-237	2.5	α	2.14E+06 y	0.47	4.8627E+06	6.9863E+04	3.3520E+04	4
2088	Np-238	2.0	β^-	2.117 d	0.09		2.3246E+05	6.4432E+05	4
2089	Np-239	2.5	β^-	2.355 d	0.17		2.6284E+05	1.8219E+05	2
2090	Np-240	5.0	β^-	1.083 h	4.62		4.6684E+05	1.2468E+06	4
2091	Np-240m	1.0	β^-:99.9;IT:0.11	7.400 m	2.70		6.8296E+05	3.3680E+05	4
2092	Np-241	2.5	β^-	13.900 m	1.44		4.3722E+05	3.6085E+04	4
2093	Np-242	6.0	β^-	5.500 m	1.82		8.9900E+05	8.9900E+05	13
2094	Np-242m	1.0	β^-	2.200 m	9.09		8.9400E+05	2.5200E+05	13
2095	Np-243	2.5	β^-	1.850 m	8.11		7.2400E+05	7.2400E+05	13
2096	Np-244	7.0	β^-	2.290 m	6.99		1.2870E+06	1.2870E+06	13
2097	Np-245	?	β^-	38.400 s	49.48		8.9000E+05	8.9000E+05	13
2098	Np-246	?	β^-	16.000 s	50.00		1.5130E+06	1.5130E+06	13

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
2099	Pu-232	?	β^+:80.0;α:20.0	34.100 m	2.05	1.3387E+06	3.6732E+06	9.2949E+04	6
2100	Pu-233	?	β^+:99.88;α:0.12	20.900 m	1.91	7.6920E+03		3.3085E+06	6
2101	Pu-234	0.0	β^+:94.0;α:6.0	8.800 h	1.14	3.7907E+05			6
2102	Pu-235	2.5	β^+:100.0;α:~	25.300 m	2.37	1.3093E+02	3.7683E+04	9.6845E+04	6
2103	Pu-236	0.0	α:100.0;SF:~	2.900 y	3.45	5.8513E+06	1.3327E+04	1.5998E+03	4
2104	Pu-237	3.5	β^+:100.0;α:~	45.300 d	0.44	2.3409E+02	1.7499E+04	5.5156E+04	4
2105	Pu-237m	0.5	IT	0.180 s	11.11		1.3100E+05	9.6000E+03	13
2106	Pu-238	0.0	α:100.0;SF:~	87.702 y	0.34	5.5798E+06	1.1189E+04	1.5483E+03	4
2107	Pu-239	0.5	α_g:0.01;α_m:99.99	2.41E+04 y	0.17	5.2368E+06	7.3859E+03	7.0756E+02	4
2108	Pu-240	0.0	α:100.0;SF:~	6563.155 y	0.08	5.2430E+06	1.1116E+04	1.3629E+03	4
2109	Pu-241	2.5	β^-:100.0;α:~	14.400 y	0.69	1.1999E+02	5.2380E+03	1.6527E+00	4
2110	Pu-242	0.0	α:100.0;SF:~	3.74E+05 y	0.29	4.9733E+06	9.3808E+03	1.2911E+03	4
2111	Pu-243	3.5	β^-	4.956 h	0.06		1.7365E+05	2.5083E+04	4
2112	Pu-244	0.0	α:99.88;SF:0.13	8.00E+07 y	1.12	4.8725E+06	7.7146E+03	9.7558E+03	4
2113	Pu-245	4.5	β^-	10.500 h	0.95		3.3143E+05	3.9858E+05	4
2114	Pu-246	0.0	β_m^-	10.850 d	0.18		1.1488E+05	1.2378E+05	4
2115	Pu-247	?	β^-	2.270 d	10.13		7.9000E+05	7.9000E+05	13
2116	Am-237	2.5	β^+:99.98;α:0.03	1.217 h	1.37	1.5364E+03	8.3233E+04	4.0321E+05	6
2117	Am-238	1.0	β^+:100.0;α:~	1.633 h	2.04	6.0415E-02	8.4122E+04	8.9494E+05	6
2118	Am-239	2.5	β^+:99.99;α:0.01	11.900 h	0.84	5.8526E+02	1.2482E+05	2.6792E+05	6
2119	Am-240	3.0	β^+:100.0;α:~	2.117 d	0.59	1.0383E+01	8.2950E+04	1.0313E+06	4
2120	Am-241	2.5	α:100.0;SF:~	432.710 y	0.12	5.5717E+06	3.9274E+04	2.8203E+04	2
2121	Am-242	1.0	β^-:82.7;β^+:17.3	16.020 h	0.12		1.8067E+05	1.7330E+04	4
2122	Am-242m	5.0	IT:99.55;α:0.45	141.003 y	1.42	2.3747E+04	4.2008E+04	4.9786E+03	4
2123	Am-243	2.5	α:100.0;SF:~	7364.976 y	0.30	5.3590E+06	2.3934E+04	5.6965E+04	2
2124	Am-244	6.0	β^-	10.100 h	0.99		3.0810E+05	8.4340E+05	4
2125	Am-244m	1.0	β^-:99.96;β^+:0.04	26.000 m	7.69		5.0389E+05	1.2440E+04	4
2126	Am-245	2.5	β^-	2.050 h	0.49		2.8473E+05	2.7744E+04	4
2127	Am-246	7.0	β^-	39.000 m	7.69		7.1534E+05	7.7520E+05	4
2128	Am-246m	2.0	β^-	25.000 m	0.80		4.8460E+05	1.0161E+06	4
2129	Am-247	2.5	β^-	22.000 m	13.64		5.7976E+05	1.7808E+05	6
2130	Am-248	?	β^-	7.133 m	51.40		1.0670E+06	1.0670E+06	13
2131	Am-249	2.5	β^-	23.900 m	41.84		8.8667E+05	8.8667E+05	12
2132	Am-250	2.5	β^-	5.100 m	32.68		1.3867E+06	1.3867E+06	12
2133	Cm-238	0.0	β^+:90.0;α:10.0	2.400 h	4.17	6.6314E+05			6
2134	Cm-239	3.5	β^+	3.000 h	33.33		1.5245E+05	1.2100E+06	13
2135	Cm-240	0.0	α:99.9;SF:0.1	27.000 d	3.70	6.3504E+06			6
2136	Cm-241	0.5	β^+:99.0;α:1.0	32.800 d	0.61	6.0294E+04	1.4084E+05	4.9676E+05	4
2137	Cm-242	0.0	α:100.0;SF:~	162.940 d	0.04	6.2003E+06	1.0171E+04	1.3725E+03	4
2138	Cm-243	2.5	β^+:0.24;α:99.76	30.001 y	6.67	5.9405E+06	1.3922E+05	1.3317E+05	4
2139	Cm-244	0.0	α:100.0;SF:~	18.100 y	0.11	5.8921E+06	8.6144E+03	1.3000E+03	4
2140	Cm-245	3.5	α	8500.194 y	2.35	5.4483E+06	8.1292E+04	9.3800E+04	4
2141	Cm-246	0.0	α:99.97;SF:0.03	4730.087 y	3.17	5.5143E+06	8.2004E+03	3.0021E+03	4
2142	Cm-247	4.5	α	1.60E+07 y	3.12	5.0282E+06	2.2388E+04	3.0280E+05	4
2143	Cm-248	0.0	α:91.74;SF:8.26	3.40E+05 y	1.18	1.9810E+07	6.2911E+03	5.7913E+05	4
2144	Cm-249	0.5	β^-	1.069 h	0.05		2.8372E+05	1.9675E+04	4
2145	Cm-250	0.0	α:30.0;SF:70.0	8000.177 y	50.00	1.2958E+08		4.9000E+06	4
2146	Cm-251	0.5	β^-	16.800 m	1.19		4.4900E+05	1.1000E+05	6
2147	Bk-243	1.5	β^+:99.85;α:0.15	4.500 h	4.44	9.9910E+03	1.6136E+02	1.7669E+05	13
2148	Bk-244	4.0	β^+:99.99;α:~	4.350 h	3.45	7.3236E+05		2.2406E+06	6
2149	Bk-245	?	β^+:99.88;α:0.12	4.940 d	0.61	7.6361E+03	9.3852E+04	3.0365E+05	6
2150	Bk-246	2.0	β^+	1.800 d	1.11		5.3275E+04	9.5201E+05	6
2151	Bk-247	1.5	α	1379.095 y	18.12	5.6571E+06	6.0101E+03	1.1438E+05	6
2152	Bk-248	6.0	α	9.000 y	10.56	5.7970E+06			11
2153	Bk-248m	1.0	β^-:70.0;β^+:30.0	23.700 h	0.84		1.7559E+05	6.6566E+04	6
2154	Bk-249	3.5	β^-:100.0;α:~	320.000 d	1.88	7.9017E+01	3.3038E+04	3.1473E+01	4
2155	Bk-250	2.0	β^-	3.217 h	0.16		2.9705E+05	9.0541E+05	4
2156	Bk-251	1.5	β^-	55.600 m	3.60		3.7333E+05	3.7333E+05	13
2157	Bk-252	1.5	β^-	35.300 m	28.33		1.0033E+06	1.0033E+06	12
2158	Bk-253	1.5	β^-	16.100 h	10.35		5.4000E+04	5.4000E+04	12
2159	Bk-254	1.5	β^-	18.800 m	53.19		1.1300E+06	1.1300E+06	12
2160	Cf-244	0.0	α	19.400 m	3.09	7.3195E+06			6
2161	Cf-245	?	β^+:70.0;α:30.0	43.600 m	1.83	2.5421E+06			6
2162	Cf-246	0.0	α:100.0;SF:~	1.488 d	1.40	6.8519E+06	4.6076E+03	2.6977E+03	6
2163	Cf-247	3.5	β^+:99.97;α:0.03	3.111 h	0.98	2.2054E+03	4.2000E+06	2.7000E+06	6
2164	Cf-248	0.0	α	333.495 d	0.84	6.3557E+06			6
2165	Cf-249	4.5	α:100.0;SF:~	351.007 y	0.57	5.9276E+06	2.9846E+04	3.2919E+05	4
2166	Cf-250	0.0	α:99.92;SF:0.08	13.080 y	0.69	6.2622E+06	5.9584E+03	6.3430E+03	4
2167	Cf-251	0.5	α	898.018 y	4.90	5.8779E+06	1.8168E+05	1.2026E+05	4
2168	Cf-252	0.0	α:96.91;SF:3.09	2.645 y	0.30	1.1805E+07	6.0060E+03	2.1738E+05	4

ID	Nuclide	J	Decay modes	T½	ΔT½ (%)	<α> (eV)	<β> (eV)	<γ> (eV)	Src
2169	Cf-253	3.5	β^-:99.69;α:0.31	17.810 d	0.45	1.8823E+04	8.0458E+04	8.3693E+01	4
2170	Cf-254	0.0	α:0.31;SF:99.69	60.500 d	0.33	1.8943E+08			6
2171	Cf-255	?	β^-	1.417 h	42.35		2.7049E+05	2.6666E+05	15
2172	Es-249	?	β^+:99.43;α:0.57	1.703 h	0.59	3.9219E+04		3.0474E+05	6
2173	Es-250	6.0	β^+	8.600 h	1.16		2.3971E+05	1.2208E+06	6
2174	Es-250m	1.0	β^+	2.220 h	2.25		1.2221E+05	1.3424E+05	6
2175	Es-251	?	β^+:99.5;α:0.5	1.375 d	3.03	3.2907E+04			6
2176	Es-252	5.0	β^+:24.0;α:76.0	1.291 y	0.40	5.0994E+06	4.3036E+04	6.8810E+05	6
2177	Es-253	3.5	α:100.0;SF:~	20.470 d	0.15	6.7336E+06	4.5611E+03	1.0755E+03	4
2178	Es-254	7.0	α	275.498 d	0.18	6.5095E+06	1.7167E+06	1.5216E+06	6
2179	Es-254m	2.0	β^-:99.59;β^+:0.08	1.638 d	0.57	2.1111E+04	2.3000E+05	4.7000E+05	6
2180	Es-255	3.5	β^-:92.0;α:8.0	39.800 d	3.02	6.0830E+05	6.8626E+04	7.2000E+03	6
2181	Es-256	1.0	β^-	22.000 m	10.91		6.9910E+05	5.5633E+05	13
2182	Es-256m	8.0	β^-	7.600 h	32.89		4.2346E+05	4.2727E+04	13
2183	Es-257	3.5	β^-	2.000 s	100.00		3.0333E+05	3.0333E+05	12
2184	Fm-250	0.0	β^+:10.0;α:89.99	30.000 m	10.00	6.7895E+06			6
2185	Fm-251	4.5	β^+:98.2;α:1.8	5.306 h	1.57	1.2290E+05	1.3700E+04	1.6400E+05	6
2186	Fm-252	0.0	α:100.0;SF:~	1.058 d	0.20	7.1473E+06			6
2187	Fm-253	0.5	β^+:88.0;α:12.0	3.000 d	4.00	8.3389E+05	5.7014E+03	9.2842E+04	6
2188	Fm-254	0.0	α:99.94;SF:0.06	3.240 h	0.06	7.2897E+06	7.4881E+03	2.2776E+03	6
2189	Fm-255	3.5	α:100.0;SF:~	20.040 h	0.40	7.1322E+06	6.3047E+04	2.3784E+04	6
2190	Fm-256	0.0	α:8.1;SF:91.9	2.627 h	0.82	1.7518E+08			6
2191	Fm-257	4.5	α:99.79;SF:0.21	100.500 d	0.20	7.2416E+06	8.1123E+04	1.4144E+05	6
2192	Fm-258	0.0	SF	3.70E-04 s	11.62	1.8000E+08			13

Key to listing: Nuclide names may contain 'm' or 'n' following the mass number, these refer to 1st and 2nd isomeric states respectively. A nuclide spin (J) shown by '?' means that it is unknown, the file actually contains -77.777. If no decay mode is given then the nuclide is stable, a single mode is labelled as beta - decay (β^-), beta + or electron capture decay (β^+), an isomeric transition (IT), alpha decay (α), proton decay (p) or neutron decay (n). Combinations of these are shown separated by a comma *e.g.* 'β^-,n' is a beta - followed by neutron emission. If the daughter nuclide is not in the ground state then the decay symbol has the subscript 'm' or 'n'; if it is required then the subscript 'g' distinguishes the daughter in the ground state. Multiple decay modes are separated by a semicolon; for each mode the branching ratio is given in percent. If the percentage branching is less than 0.01% then the symbol '~' is used. The nuclide half-life (T½) is given in units of seconds (s), minutes (m), hours (h), days (d) or years (y); fixed format is used wherever possible, for very short- or long-lived nuclides scientific notation is applied.

Note that the nuclide ^{49}Fe is used in a special fashion by FISPACT. The nuclide is required to be stable and be totally unreactive: this pseudo-nuclide is shown in the listing, but in reality ^{49}Fe is very short lived (75 ms).

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Disclaimer

Neither the author nor UKAEA accept responsibility for consequences arising from any errors either in the present documentation, or in the EASY-2005 system.

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Feedback on the use of EAF is welcomed. Please contact RA Forrest with comments or in case of problems.

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